Digital Video Recorder

User Manual

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Hikvision® Network Digital Video Recorder User's Manual

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FCC information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.

This manual is applicable to the following models:

Type	Model
Network HDVR	DS-7204HFI-SH, DS-7208HFI-SH, DS-7216HFI-SH
	DS-7204HWI-SH, DS-7208HWI-SH, DS-7216HWI-SH
	DS-7204HVI-SV, DS-7208HVI-SV, DS-7216HVI-SV
	DS-7208HWI-SL, DS-7216HWI-SL
	DS-7304HFI-SH, DS-7308HFI-SH, DS-7316HFI-SH
	DS-7304HWI-SH, DS-7308HWI-SH, DS-7316HWI-SH
Network DVR	DS-7204HVI-SH, DS-7208HVI-SH, DS-7216HVI-SH
	DS-7204HWI-SV
	DS-7224HVI-SH, DS-7232HVI-SH
	DS-7224HWI-SH, DS-7232HWI-SH
	DS-7324HFI-SH, DS-7332HFI-SH
	DS-7324HWI-SH, DS-7332HWI-SH
	DS-7324HI-SH, DS-7332HI-SH
	DS-8124HCI-SH, DS-8132HCI-SH
	DS-8124HFSI-SH, DS-8132HFSI-SH
	DS-8124HWSI-SH, DS-8132HWSI-SH

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Product Key Features

General

- Connectable to the network cameras and network domes (this feature is supported by HDVR series).
- PAL/NTSC adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- Encoding at up to WD1 (PAL: 960×576, NTSC: 960×480) resolution for DS-7200HWI-SH, DS-7204HWI-SV, DS-7200HVI-SV, DS-7200HWI-SL, DS-7224/7232HVI-SH, DS-7300HWI-SH, DS-7300HI-SH, DS-8100HCI-SH and DS-8100HWSI-SH models; and up to 4CIF resolution for DS-7204/7208/7216HVI-SH, DS-7200HFI-SH, DS-7300HFI-SH, and DS-8100HFSI-SH models.
- Each channel supports dual-stream.
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
- Input and output video quality is configurable.
- Normal and event recording parameters configurable per individual camera.
- Encoding for audio/video composite stream or video stream; audio and video synchronization during composite stream encoding.
- Watermark technology.
- Video quality diagnostics.

Local Monitoring

- Simultaneous HDMI/VGA and CVBS outputs.
- HDMI/VGA output at up to 1920×1080P resolution.
- 1/4/6/8/9/16/25/36-division live view is supported, and the display sequence of screens is adjustable.
- Live view screen can be switched in group, and manual switch and automatic cycle view is also provided, the interval of automatic cycle can be adjusted.
- Quick setting menu is provided for live view.
- The selected live view channel can be shielded.
- Motion detection, tamper-proof, video exception and video loss alarm functions.
- Privacy mask.
- Multiple PTZ protocols supported; setting and calling of PTZ preset, patrol and pattern.
- Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

HDD Management

- 1 SATA hard disk can be connected to DS-7200HVI-SH, DS-7200HVI-SV, DS-7204HFI-SH, DS-7204HWI-SV and DS-7204HWI-SH, DS-7200HWI-SL models, 2 SATA hard disks to DS-7208/7216HFI-SH, DS-7208/7216HWI-SH, DS-7224/7232HVI-SH and DS-7224/7232HWI-SH models, up to 4 SATA hard disks to DS-7300-SH, and up to 8 SATA hard disks to DS-8100-SH; with a maximum of 4TB storage capacity for each disk.
- 8 network disks (8 NAS disks, or 7 NAS disks+1 IP SAN disk) can be connected.
- HDD group management.
- Support HDD standby function.
- HDD property: redundancy, read-only, read/write (R/W).
- HDD quota management; different capacity can be assigned to different channel.

Recording and Playback

- Holiday recording schedule configuration.
- Normal and event video encoding parameters.
- Multiple recording types: manual, normal, motion, alarm, motion/alarm and motion & alarm.
  Note: The alarm, motion/alarm and motion & alarm recording types are provided for DS-7224/7232-SH, DS-7300-SH, DS-8100-SH and HDVR models only.
- Recording by main stream or sub stream is configurable.
- 8 recording time periods with separated recording types.
- Pre-record and post-record for motion detection for recording, and pre-record time for schedule and manual recording.
- Searching record files by event.
- Customization of tags, searching and playing back by tags.
- Locking and unlocking record files.
- Local redundant recording.
- Searching and playing back record files by channel number, recording type, start time, end time, etc.
- Smart search for the selected area in the video.
- Smart playback to go through less effective information.
- Zooming in when playback.
- Playing reversely.
- Support pause, speed up, speed down, skip forward, and skip backward when playback, locating by dragging the mouse.
- 4/8/16-ch synchronous playback.

Backup

- Export video data by USB, SATA or eSATA storage device.
  Note: The eSATA is supported by DS-7300-SH and DS-8100-SH models only.
- Export video clips when playback.
- Management and maintenance of backup devices.

Alarm and Exception

- Configurable arming time of alarm input/output (for DS-7224/7232-SH, DS-7300-SH and DS-8100-SH models).
- Alarm for video loss, motion detection, tampering, abnormal signal, video input/output standard mismatch, illegal login, network disconnected, IP confliction, abnormal record, HDD error, and HDD full, etc.
- Alarm event triggers full screen monitoring, audio alarm, notifying surveillance center and sending email.
- Automatic restore when system is abnormal.
- Support alarm push notification (in live video or playback) on the linked mobile phones when alarm event occurs.
  Note: The mobile phone must be installed with the iVMS-4500 client software and the alarm push function is enabled.

Other Local Functions

- Operable by mouse, IR remote control or front panel (for DS-7300-SH and DS-8100-SH).
- Three-level user management; admin user is allowed to create many operating accounts and define their operating permission, which includes the limit to access any channel.
- Operation, exceptions and log recording and searching.
- Import and export of device configuration information.

Network Functions

- 1 self-adaptive 10M/100M network interface for DS-7204/7208/7216-SH/SV/SL, and 1 self-adaptive 10M/100M/1000M network interface for DS-7224/7232-SH, and DS-7300-SH, and 2 self-adaptive 10M/100M/1000M network interfaces for DS-8100-SH models.
- IPv6 is supported.
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, RTSP, NTP, SADP, SMTP, SNMP, NFS and iSCSI are supported.
- TCP, UDP and RTP for unicast.
- Auto/Manual port mapping and automatically discovered by NAT.
- Remote search, playback, download, locking and unlocking of the record files, and downloading files broken transfer resume.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of the device status, system logs and alarm status.
- Remote locking and unlocking of control panel and mouse.
- Remote HDD formatting and program upgrading.
- Remote system restart.
- RS-232 and RS-485 transparent channel transmission.
  Note: RS-232 serial port is provided for DS-7300-SH and DS-8100-SH models only.
- Alarm event and exception information can be sent to the remote host.
- Remotely start/stop recording.
- Upgrade by remote FTP server.
- Remote PTZ control.
- Two-way audio and voice broadcasting.
- Embedded WEB server.

Development Scalability:

- SDK for Windows and Linux system.
- Source code of application software for demo.
- Development support and training for application system.

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C H A P T E R 1

Introduction

1.1 Front Panel

DS-7200-SH and DS-7200HVI-SV:

The front panel of DS-7200-SH/SV series DVR is shown in Figure 1.1:

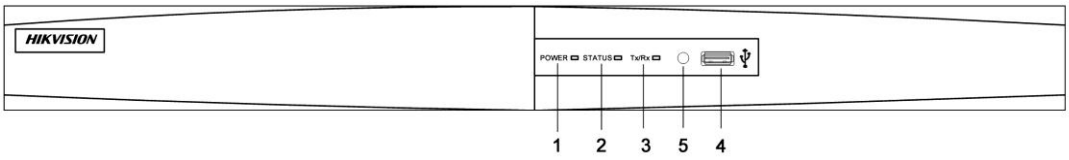


Figure 1.1 Front Panel of DS-7200-SH/SV

Table 1.1 Description of Control Panel Buttons

No.	Name	Function Description
1	POWER	POWER indicator turns green when DVR is powered up.
2	STATUS	STATUS indicator lights in red when HDD is reading/writing.
3	Tx/Rx	Tx/Rx indictor blinks green when network connection is functioning properly.
4	USB Interface	Connects USB mouse or USB flash memory devices.
5	IR Receiver	Receiver for IR remote.

DS-7300-SH:

The front panel of DS-7300-SH is shown below:

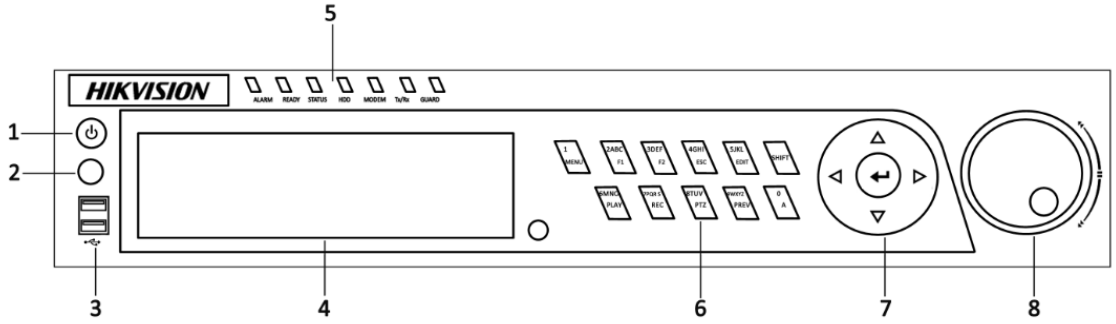


Figure 1.2 Front Panel of DS-7300-SH

Table 1.2 Description of Control Panel Buttons

No.	Name	Function Description
1	POWER ON/OFF	Power on/off switch.
2	IR Receiver	Receiver for IR remote control.
3	USB	Connect to USB mouse or USB flash memory devices.
4	DVD-R/W	Slot for DVD-R/W.
5	POWER	Power indicator lights in green when DVR is powered up.
	READY	Ready indicator is normally green, indicating that the DVR is functioning properly.

No.	Name	Function Description
	STATUS	Indicator turns green when DVR is controlled by an IR remote control with the address from 1~254; Indicator turns red when the SHIFT button is used; Indicator does not light when the DVR is controlled by a keyboard or by the IR remote control with the address of 255; Indicator turns green when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time , and the SHIFT button is not used; Indicator turns orange : (a) when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time and the SHIFT button is used as well; (b) when the DVR is controlled by IR remote control (with the address from 1~254) and the SHIFT button is used.
	ALARM	Alarm indicator turns red when a sensor alarm is detected.
	HDD	HDD indicator blinks in red when data is being read from or written to HDD.
	Tx/Rx	TX/RX indictor blinks in green when network connection is functioning properly.
6	**1/MENU**	Enter numeral “1”; Access the main menu interface.
	2ABC/F1	Enter numeral “2”; Enter letters “ABC”; The F1 button can be used to select all items on the list; In PTZ Control mode, the F1 button can be used to zoom out (zoom-) the PTZ camera; In live view or playback mode, the F1 button can be used to switch between main and spot video output.
	3DEF/F2	Enter numeral “3”; Enter letters “DEF”; In PTZ Control mode, the F1 button can be used to zoom in (zoom+) the PTZ camera; The F2 button can be used to cycle through tab pages.
	4GHI/ESC	Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.
	5JKL/EDIT	Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Select the checkbox and ON/OFF switch; Start/stop record clipping in playback.
	SHIFT	Switch of compound keys between the numeric/letter input and functional control.
	6MNO/PLAY	Enter numeral “6”; Enter letters “MNO”; In Playback mode, it is used for direct access to playback interface.
	7PQRS/REC	Enter numeral “7”; Enter letters “PQRS”; Manual record, for direct access to manual record interface; manually enable/disable record.
	8TUV/PTZ	Enter numeral “8”; Enter letters “TUV”; Access PTZ control interface.

No.	Name	Function Description
	9WXYZ/PREV	Enter numeral “9”; Enter letters “WXYZ”; Multi-camera display in live view; In Playback mode or Menu→Playback→Tag playback interface, this button can be used to delete the selected tag.
	0/A	Enter numeral “0”; Switch between input methods (upper and lowercase alphabet, symbols and numeric input). In Playback mode, this button can be used to add the default tag.
7	**DIRECTION**	The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. In All-day Playback mode, the Left/Right button can be used to select the recorded video of next/previous day; in Playback by Normal Video Search, the Left/Right button can be used to select the next/previous recorded file. In Live View mode, the directional buttons can be used to cycle through channels. In PTZ control mode, it can control the movement of the PTZ camera.
	ENTER	Confirm selection in any of the menu modes. It can also be used to tick checkbox fields. In Playback mode, it can be used to play or pause the video. In Single-frame Playback mode, pressing the ENTER button will advance the video by a single frame. In Auto-switch mode, it can be used to stop /start auto switch.
8	**JOG SHUTTLE Control**	Move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In Playback mode, the inner ring is used to jump 30s forward/backward in video files. The outer ring can be used to speed up/slow down the video. In Live View mode, it can be used to cycle through different channels. In PTZ control mode, in can control the movement of the PTZ camera.

DS-8100-SH:

The front panel of DS-8100-SH is shown below:

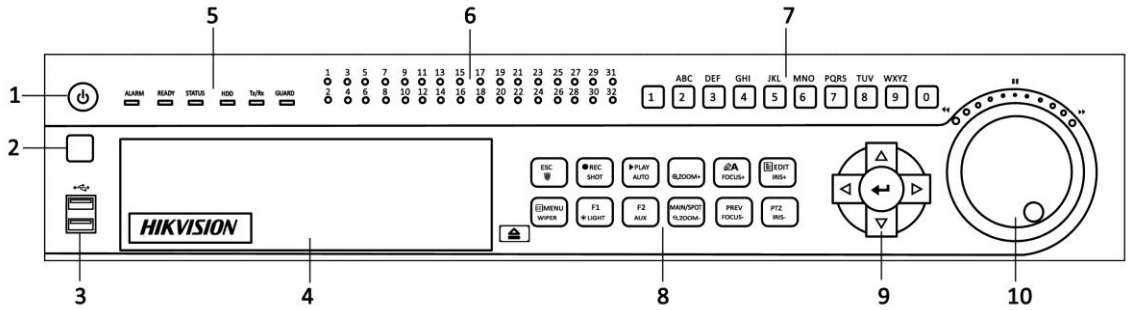


Figure 1.3 Front Panel of DS-8100-SH

Table 1.3 Description of Control Panel Buttons

No.	Name	Function Description
1	**POWER ON/OFF**	Power on/off switch.
2	**IR Receiver**	Receiver for IR remote control.
3	**USB**	Connect to USB mouse or USB flash memory devices.
4	**DVD-R/W**	Slot for DVD-R/W.
5	**ALARM**	Alarm indicator turns red when a sensor alarm is detected.
	READY	Ready indicator is normally blue, indicating that the DVR is functioning properly.
	STATUS	Indicator turns blue when DVR is controlled by an IR remote. Indicator turns red when controlled by a keyboard and orange when IR remote and keyboard is used at the same time. Indicator does not light when the DVR is controlled by the IR remote control with the address of 255.
	HDD	HDD indicator blinks in red when data is being read from or written to HDD.
	Tx/Rx	Tx/Rx indictor blinks in blue when network connection is functioning properly.
	GUARD	Indicator turns blue when the device is armed; Indicator does not light when the device is disarmed; The arm/disarm state can be initiated by pressing and holding on the ESC button for more than 3 seconds in live view mode.
6	**Channel Status LED Indicators**	The button lights in blue when the corresponding channel is recording; it is red when the channel is in network transmission status; it is pink when the channel is recording and transmitting.
7	**Alphanumeric Buttons**	Switch to the corresponding channel in Live View or PTZ Control mode. Input numbers and characters in Edit mode. Switch between different channels in All-day Playback mode.
8	**ESC**	Exit and back to the previous menu. Arm/disarm the DVR in live view mode.
	REC/SHOT	Enter the Manual Record interface. Turn audio on/off in Playback mode; In PTZ control mode, pressing the REC/SHOT button and a Numeric button will call a PTZ preset.
	PLAY/AUTO	Enter the Playback menu; Auto scan in the PTZ Control mode.
	ZOOM+ Button	In PTZ control mode, the ZOOM+ button is used to zoom in the PTZ camera.
	A/FOCUS+	Adjust focus in the PTZ Control mode. Switch between input methods (upper and lowercase alphabet, symbols and numeric input).
	EDIT/IRIS+	Edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor. On checkbox fields, pressing the button will *tick* the checkbox. In PTZ Control mode, the button adjusts the iris of the camera. In Playback mode, it can be used to generate video clips for backup.
	MENU/WIPER	Return to the Main menu (after successful login); Turn off audible key beeper by pressing and holding the button for 5 seconds; Start wiper (if applicable) in PTZ Control mode.
	F1/LIGHT	The F1/LIGHT button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
	F2/AUX	The F2/AUX button is used to cycle through tab pages.
	MAIN/SPOT/ZOOM-	Switch to the control of spot output; In PTZ Control mode, it can be used to zoom out the PTZ camera.
	PREV/FOCUS-	Switch between single screen and multi-screen mode. In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
	PTZ/IRIS-	Enter the PTZ Control mode. In PTZ Control mode, it is used to close the iris of the PTZ camera.
9	**DIRECTION**	The DIRECTION buttons are used to navigate between different fields and items

No.	Name	Function Description
		in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. In All-day Playback mode, the Left/Right button can be used to select the recorded video of next/previous day; in Playback by Normal Video Search, the Left/Right button can be used to select the next/previous recorded file. In Live View mode, the directional buttons can be used to cycle through channels. In PTZ control mode, it can control the movement of the PTZ camera.
	ENTER	Confirm selection in any of the menu modes. It can also be used to tick checkbox fields. In Playback mode, it can be used to play or pause the video. In Single-frame Playback mode, pressing the ENTER button will advance the video by a single frame. In Auto-switch mode, it can be used to stop /start auto switch.
10	**JOG SHUTTLE Control**	Move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In Playback mode, the inner ring is used to jump 30s forward/backward in video files. The outer ring can be used to speed up/slow down the video. In Live View mode, it can be used to cycle through different channels. In PTZ control mode, in can control the movement of the PTZ camera.

1.2 IR Remote Control Operations

The device may also be controlled with the included IR remote control, shown in Figure 1.4.

Note: Batteries (2×AAA) must be installed before operation.

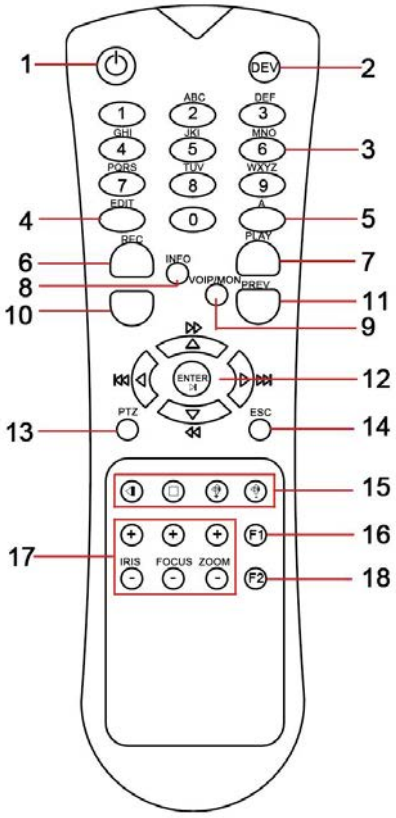


Figure 1.4 Remote Control

Table 1.4 Description of the IR Remote Control Buttons

No.	Name	Description
1	**POWER**	Power on/off the device.
2	**DEV**	Enables/Disables Remote Control.
3	**Alphanumeric Buttons**	Switching to the corresponding channel in Live view or PTZ Control mode. Inputting numbers and characters in Edit mode. Switching between different channels in All-day Playback mode.
4	**EDIT Button**	Editing text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor. On checkbox fields, pressing the EDIT button will *tick* the checkbox. In Playback mode, it can be used to generate video clips for backup.
5	**A Button**	Switching between input methods (upper and lowercase alphabet, symbols and numeric input).
6	**REC Button**	Entering the Manual Record settings menu. In PTZ control settings, press the REC button and then you can call a PTZ preset by pressing Numeric button.

No.	Name	Description
7	**PLAY Button**	Entering the All-day Playback menu.
8	**INFO Button**	Reserved.
9	**VOIP/MON Button**	Selecting all items on the list; In live view or playback mode, it can be used to switch between main and auxiliary video output.
10	**MENU Button**	Back to the Main menu (after successful login).
11	**PREV Button**	Switching between single screen and multi-screen mode.
12	**DIRECTION/ENTER Buttons**	Navigating between different fields and items in menus. In Playback mode, the Up and Down button are used to speed up and slow down the playing of recorded video. The Left and Right button will select the recorded video of 30 reverse and 30s forward. In live view mode, these buttons can be used to cycle through channels.
13	**PTZ Button**	Enter the PTZ Control mode.
14	**ESC Button**	Back to the previous menu Pressing for arming/disarming the DVR in Live View mode.
15	**RESERVED**	Reserved.
16	**F1 Button**	Selecting all items on the list when used in a list field. In PTZ Control mode, it will turn on/off PTZ light.
17	**PTZ Control Buttons**	Adjusting the iris, focus and zoom of a PTZ camera.
18	**F2 Button**	Cycle through tab pages.

Troubleshooting Remote Control:

Note: Make sure you have installed batteries properly in the remote control. And you have to aim the remote control at the IR receiver on the front panel.

If there is no response after you press any button on the remote, follow the procedure below to troubleshoot.

Steps:

1. Go to Menu > Configuration > General > More Settings by operating the mouse.
2. Check and remember the device No. The default No. is 255. This device No. is valid for all the IR remote controls.
3. Press the DEV button on the remote control.
4. Enter the device No. from step 2.
5. Press the ENTER button on the remote.

If the remote control is operating properly, but there is still no response from the remote, please check the following:

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

If the remote still can't function properly, please change a remote and try again, or contact the device provider.

1.3 USB Mouse Operation

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this device. To use a USB mouse:

1. Plug USB mouse into one of the USB interfaces on the front panel of the device.
2. The mouse should automatically be detected. If in a rare case that the mouse is not detected, the possible reason may be that the two devices are not compatible, please refer to the recommended device list from your provider.

The operation of the mouse:

Table 1.5 Description of the Mouse Control

Name	Action	Description
Left-Click	Single-Click	Live view: Select channel and show the quick set menu. Menu: Select and enter.
	Double-Click	Live view: Switch single-screen and multi-screen.
	Click and Drag	PTZ control: pan, tilt and zoom. Tamper-proof, privacy mask and motion detection: Select target area. Digital zoom-in: Drag and select target area. Live view: Drag channel/time bar.
Right-Click	Single-Click	Live view: Show menu. Menu: Exit current menu to upper level menu.
Scroll-Wheel	Scrolling up	Live view: Previous screen. Right-click Menu: Previous item.
	Scrolling down	Live view: Next screen. Right-click Menu: Next item.

1.4 Input Method Description

Figure 1.5 Soft Keyboard

Description of the buttons on the soft keyboard:

Table 1.6 Description of the Soft Keyboard Icons

Icons	Description	Icons	Description
En	English	A	Capital English
123	Numbers	!#	Symbols
a	Lowercase/Uppercase	⌫	Backspace
␣	Space	Enter	Enter
ESC	Exit		

1.5 Rear Panel

DS-7204HVI/HFI/HWI-SH, DS-7204HVI-SV and DS-7204HWI-SV:

The rear panel of 7204HVI/HFI/HWI-SH, DS-7204HVI-SV and DS-7204HWI-SV DVR is shown in Figure 1.6.

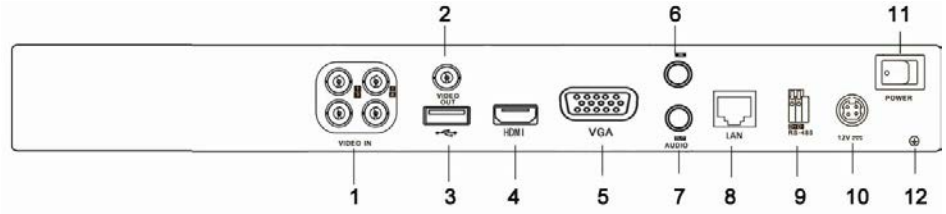


Figure 1.6 Rear Panel of DS-7204HVI/HFI/HWI-SH, DS-7204HVI-SV and DS-7204HWI-SV

DS-7216HVI-SH, DS-7216HVI-SV and DS-7216HWI-SL:

The rear panel of DS-7216HVI-SH, DS-7216HVI-SV and DS-7216WI-SL DVR is shown in Figure 1.7.

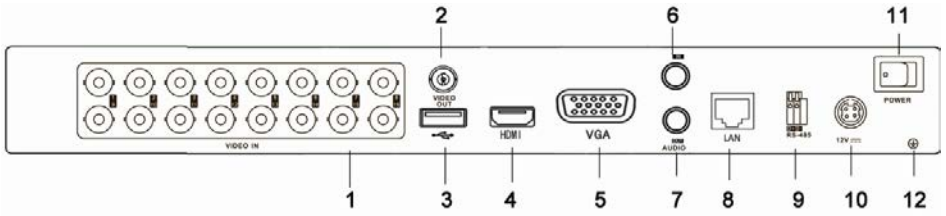


Figure 1.7 Rear Panel of DS-7216HVI-SH and DS-7216HVI-SV

Note: The rear panel of DS-7208HVI-SH/DS-7208HVI-SV/DS-7208HWI-SL provides 8 video input interfaces.

DS-7216HFI-SH and DS-7216HWI-SH:

The rear panel of DS-7216HFI-SH and DS-7216HWI-SH is shown in Figure 1.8.

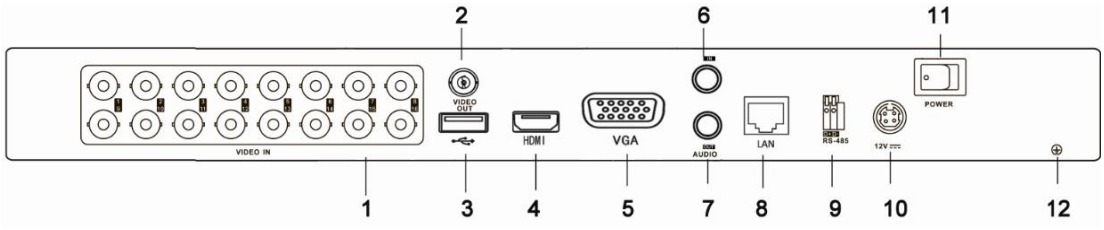


Figure 1.8 Rear Panel of DS-7216HFI-SH and DS-7216HWI-SH

Note: The rear panel of DS-7208HFI-SH/DS-7208HWI-SH provides 8 video input interfaces.

Table 1.7 Description of Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connector for analog video input.
2	VIDEO OUT	BNC connector for video output.
3	USB Interface	Connects USB mouse or USB flash memory devices.
4	HDMI	HDMI video output.
5	VGA	DB15 connector for VGA output. Display local video output and menu.
6	AUDIO IN	RCA connector for audio input.
7	AUDIO OUT	RCA connector for audio output.
8	LAN Interface	RJ45 10M/100M Ethernet interface.
9	RS-485 Interface	Connector for RS-485 devices. Connect the D+ and D- terminals to T+ and T- of PTZ receiver respectively.
10	12V	12VDC power supply.
11	POWER	Switch for turning on/off the device.
12	GND	Ground (needs to be connected when DVR starts up).

DS-7224/7232HVI-SH and DS-7224/7232HWI-SH:

The rear panel of DS-7232HVI-SH/DS-7232HWI-SH is shown in Figure 1.9.

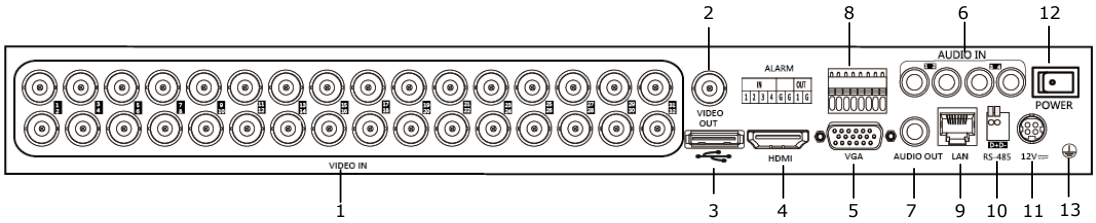


Figure 1.9 Rear Panel of DS-7232HVI-SH and DS-7232HWI-SH

Note: The rear panel of DS-7224HVI-SH/DS-7224HWI-SH provides 24 video input interfaces.

Table 1.8 Description of Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connector for analog video input.
2	VIDEO OUT	BNC connector for video output.
3	USB Interface	Connects USB mouse or USB flash memory devices.
4	HDMI	HDMI video output.
5	VGA	DB15 connector for VGA output. Display local video output and menu.
6	AUDIO IN	RCA connector for audio input.
7	AUDIO OUT	RCA connector for audio output.
8	Alarm In/Out	Connector for alarm input/output.
9	LAN Interface	RJ45 10M / 100M / 1000M Ethernet interface.
10	RS-485 Interface	Connector for RS-485 devices. Connect the D+ and D- terminals to R+ and R- terminals of PTZ receiver respectively.
11	12V	12VDC power supply.
12	POWER	Switch for turning on/off the device.
13	GND	Ground(needs to be connected when DVR starts up)

DS-7316HFI-SH and DS-7316HWI-SH:

The rear panel of DS-7316HFI-SH and DS-7316HWI-SH DVR is shown in Figure 1.10.

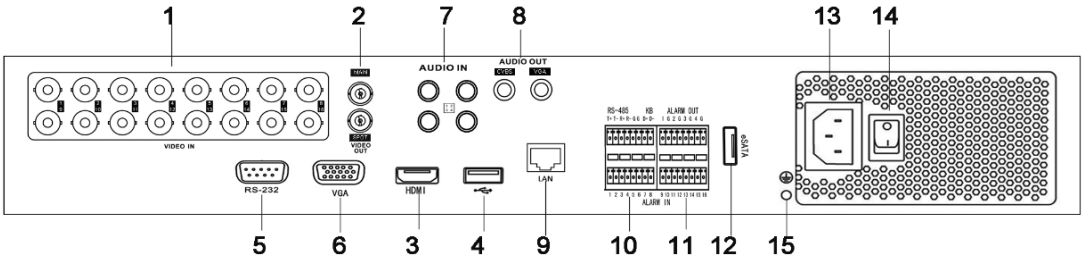


Figure 1.10 Rear Panel of DS-7316HFI-SH and DS-7316HWI-SH

Note: The rear panel of DS-7304HFI-SH/DS-7304HWI-SH provides 4 video input interfaces, and the rear panel of DS-7308HFI-SH/DS-7308HWI-SH provides 8 video input interfaces.

Table 1.9 Description of Rear Panel

No.	Item	Description
1	**VIDEO IN**	BNC connector for analog video input.
2	**MAIN VIDEO OUT**	BNC connector for video output.
	SPOT VIDEO OUT	BNC connector for spot video output.
3	**HDMI**	HDMI video output.
4	**USB Interface**	Connects USB mouse or USB flash memory devices.
5	**RS-232**	Connector for RS-232 devices.
6	**VGA**	DB15 connector for VGA output. Display local video output and menu.
7	**AUDIO IN**	RCA connector for audio input.
8	**AUDIO OUT**	RCA connector for audio output.
9	**LAN Interface**	RJ45 10M/100M/1000M Ethernet interface.
10	**RS-485 Interface**	Connector for RS-485 devices. Connect the D+ and D- terminals to R+ and R- terminals of PTZ receiver respectively.
11	**Alarm In/Out**	Connector for alarm input/output.
12	**eSATA**	Connects external SATA HDD, DVD-R/W.
13	**100~240VAC**	100~240VAC power supply.
14	**POWER**	Switch for turning on/off the device.
15	**GND**	Ground (needs to be connected when DVR starts up)

DS-7332HFI-SH, DS-7332HWI-SH and DS-7332HI-SH:

The rear panel of DS-7332HFI-SH, DS-7332HWI-SH and DS-7332HI-SH DVR is shown in Figure 1.11.

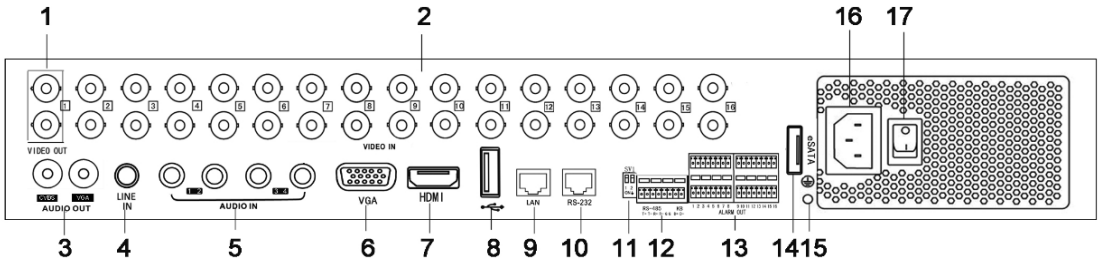


Figure 1.11 Rear Panel of DS-7332HFI-SH, DS-7332HWI-SH and DS-7332HI-SH

Note: DS-7324HFI-SH, DS-7324HWI-SH and DS-7324HI-SH models provide 24 video input interfaces on the rear panel.

Table 1.10 Description of Rear Panel

No.	Item	Description
1	MAIN VIDEO OUT	BNC connector for video output.
	SPOT VIDEO OUT	BNC connector for spot video output.
2	VIDEO IN	BNC connector for analog video input.
3	CVBS AUDIO OUT	RCA connector for audio output. This connector is synchronized with CVBS video output.
	VGA AUDIO OUT	RCA connector for audio output. This connector is synchronized with VGA video output.
4	LINE IN	RCA connector for two-way audio input.
5	AUDIO IN	RCA connector for audio input.
6	VGA	DB15 connector for VGA output. Display local video output and menu.
7	HDMI	HDMI video output.
8	USB Interface	Connects USB mouse or USB flash memory devices.
9	LAN Interface	RJ45 10M/100M/1000M Ethernet interface.
10	RS-232	Connector for RS-232 devices.
11	Termination Switch	RS-485 termination switch. Up position is not terminated. Down is terminated with 120Ω resistance.
12	RS-485 Interface	Connector for RS-485 devices. Connect the T+ and T- terminals to the R+ and R- terminals of PTZ receiver respectively.
	KB	Connect the D+ and D- terminals to Ta and Tb terminals of the controller. For cascading devices, the first DVR's D+ and D- terminals should be connected with the D+ and D- terminals of the next DVR.
13	Alarm In/Out	Connector for alarm input/output.
14	eSATA	Connects external SATA HDD, DVD-R/W.
15	GND	Ground(needs to be connected when DVR starts up)
16	100~240VAC	100~240VAC power supply.
17	POWER	Switch for turning on/off the device.

DS-8100-SH:

The rear panel of DS-8100-SH DVR is shown in Figure 1.12.

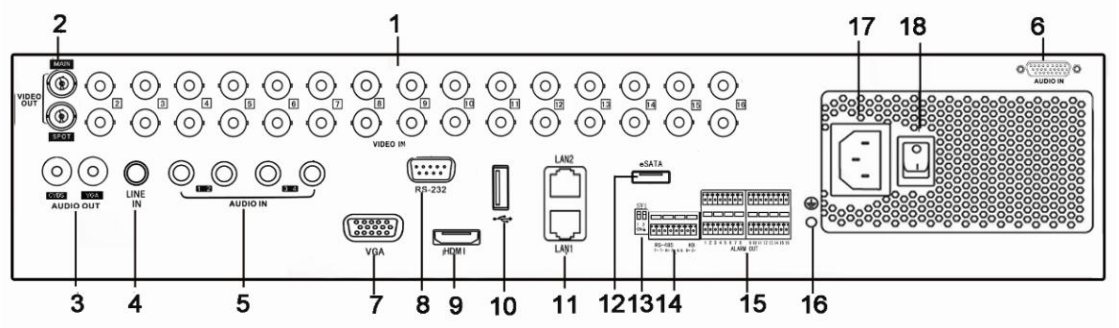


Figure 1.12 Rear Panel of DS-8132HCI-SH, DS-8132HFSI-SH and DS-8132HWSI-SH

Note: DS-8124HCI-SH, DS-8124HFSI-SH and DS-8124HWSI-SH models provide 24 video input interfaces on the rear panel.

Table 1.11 Description of Rear Panel

No.	Item	Description
1	**VIDEO IN**	BNC connector for analog video input.
2	**MAIN VIDEO OUT**	BNC connector for video output.
	SPOT VIDEO OUT	BNC connector for spot video output.
3	**CVBS AUDIO OUT**	RCA connector for audio output. This connector is synchronized with CVBS video output.
	VGA AUDIO OUT	RCA connector for audio output. This connector is synchronized with VGA video output.
4	**LINE IN**	RCA connector for two-way audio input.
5	**AUDIO IN (1-4)**	RCA connector for audio input.
6	**AUDIO IN (5-16)**	DB26 connector for audio input.
7	**VGA**	DB15 connector for VGA output. Display local video output and menu.
8	**RS-232**	Connector for RS-232 devices.
9	**HDMI**	HDMI video output.
10	**USB Interface**	Connects USB mouse or USB flash memory devices.
11	**LAN1/LAN2 Interface**	2 RJ45 10M/100M/1000M Ethernet interfaces.
12	**eSATA**	Connects external SATA HDD, DVD-R/W.
13	**Termination Switch**	RS-485 termination switch. Up position is not terminated. Down is terminated with 120Ω resistance.
14	**RS-485 Interface**	Connector for RS-485 devices. Connect the T+ and T- terminals to the R+ and R- terminals of PTZ receiver respectively.
	KB	Connect the D+ and D- terminals to Ta and Tb terminals of the controller. For cascading devices, the first DVR's D+ and D- terminals should be connected with the D+ and D- terminals of the next DVR.
15	**Alarm In/Out**	Connector for alarm input/output.
16	**GND**	Ground(needs to be connected when DVR starts up)
17	**100~240VAC**	100~240VAC power supply.
18	**POWER**	Switch for turning on/off the device.

1.6 Starting Up and Shutting Down the Device

Purpose:

Proper startup and shutdown procedures are crucial to expanding the life of the device.

Before you start:

Check that the voltage of the extra power supply is the same with the device's requirement, and the ground connection is working properly.

Starting up the device:

Steps:

1. Check the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device.
2. Press the **POWER** button on the rear panel. The Power indicator LED should turn green indicating that the unit begins to start up.

Shutting down the device:

Steps:

1. Enter the Shutdown menu.
   Menu > Shutdown

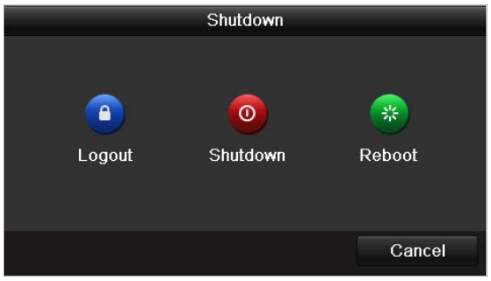


Figure 1.13 Shutdown Menu

2. Click the **Shutdown** button to enter the following dialog box:

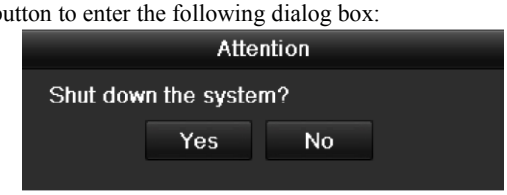


Figure 1.14 Dialog Box for Shutdown

3. Click the **Yes** button. The following message box pops up:

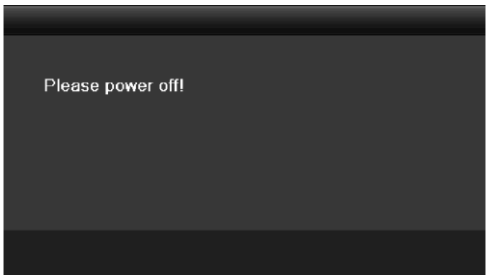


Figure 1.15 Message Box for Power Off

4. Turn off the power switch on the rear panel of DVR.

Rebooting the device

In the Shutdown menu (Figure 1.13), you can also click **Reboot** to reboot the device.

C H A P T E R 2

Getting Started

2.1 Using the Wizard for Basic Configuration

The Setup Wizard can walk you through some important settings of the device. By default, the Setup Wizard starts once the device has loaded.

Operating the Setup Wizard:

1. Select the system resolution from the drop-down menu. The default resolution is 1280×1024/60Hz. Click **Apply** to save the resolution settings.

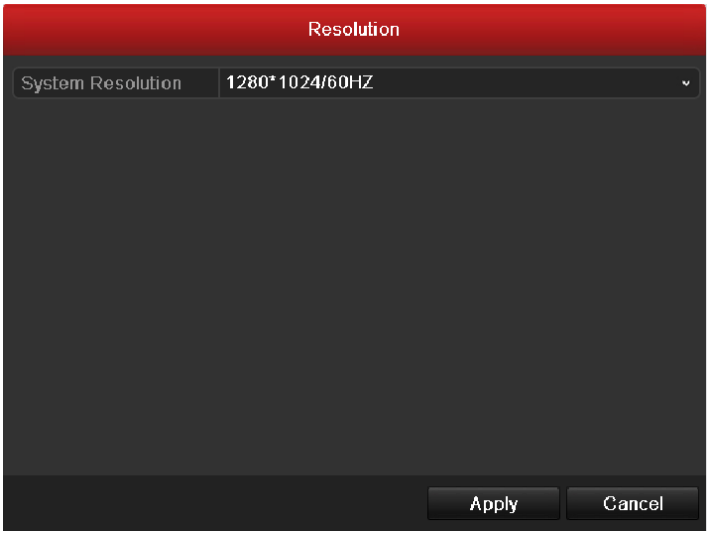


Figure 2.1 Start Wizard Interface

Note: By default, the system resolution is set to 1280×1024.

2. Check the checkbox to enable Setup Wizard when device starts. Click **Next** to continue the setup wizard.

   You can also click **Cancel** to exit the Setup Wizard, or use the Setup Wizard next time by leaving the "Start wizard when DVR starts?" checkbox checked and exit.

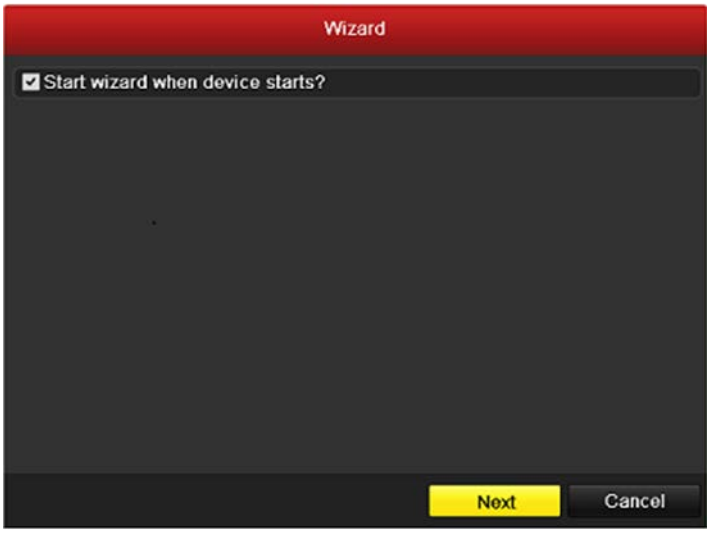


Figure 2.2 Start Wizard Interface

3. Click **Next** button on the Wizard window to enter the **Login** window, as shown in Figure 2.3.

   1) Enter the admin password. By default, the password is 12345.

2) To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the given fields.

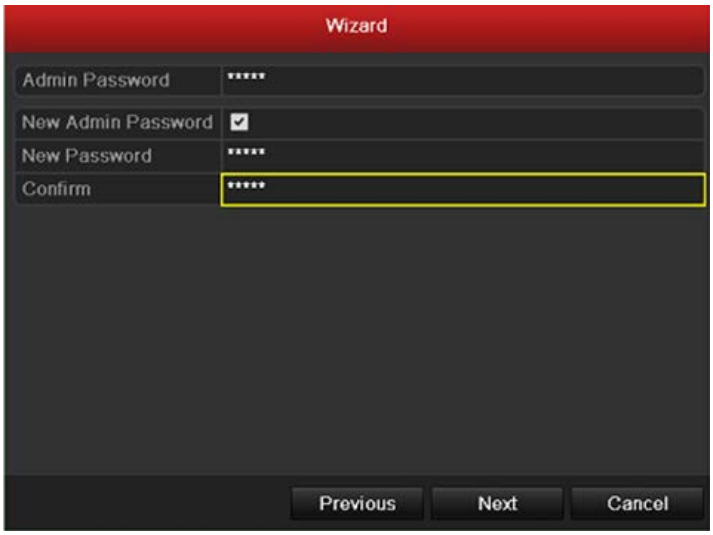


Figure 2.3 Login Window

4. Click the **Next** button to enter the **Date and Time** settings window, as shown in Figure 2.4.
Set the time zone, date format, system date and system time.

Figure 2.4 Date and Time Settings

5. Click **Next** button which takes you back to the **Network** Setup Wizard window, as shown in Figure 2.5. Set the network parameters, including the NIC type, IPv4 address, IPv4 subnet mask, default gateway, etc. You can enable the DHCP to automatically obtain an IP address and other network settings from that server.

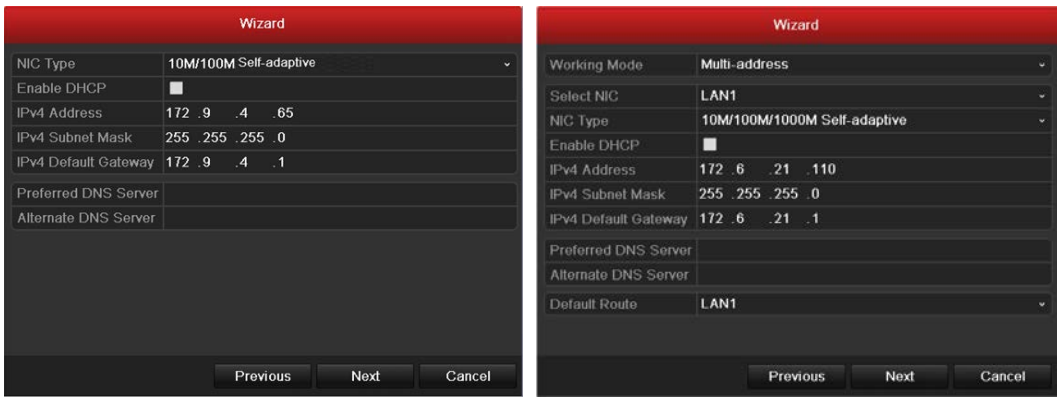


Figure 2.5 Network Configuration

Note: The DS-7204/7208/7216-SH/SV/SL models provide one 10M/100Mbps self-adaptive network interface, the DS-7224/7232-SH and DS-7300-SH models provide one 10M/100M/1000Mbps self-adaptive network interface, and the DS-8100-SH models provide two10M/100M/1000Mbps self-adaptive network interfaces.

6. Click **Next** button to enter the advanced network settings window.
7. Configure the advanced network parameters, including the server port, HTTP port, RTSP port, UPnP and DDNS settings.

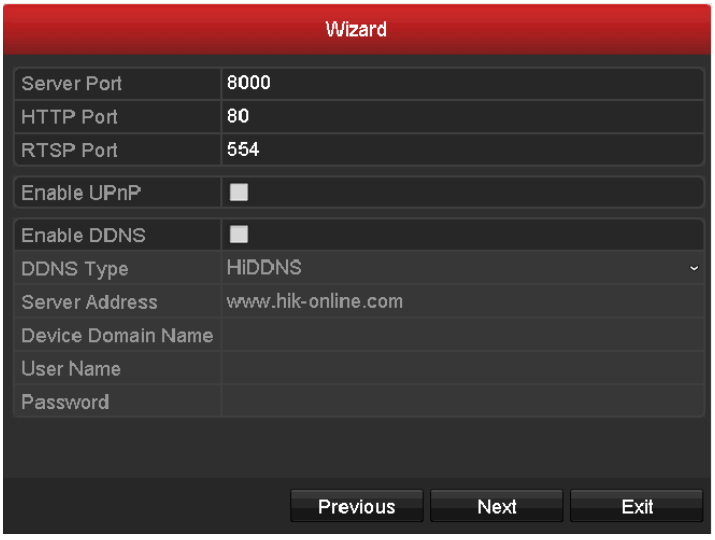


Figure 2.6 Advanced Network Configuration

8. Click **Next** button to enter the **HDD Management** window, shown in Figure 2.7.
   To initialize the HDD, click the **Init** button. Initialization removes all the data saved in the HDD.

Figure 2.7 HDD Management

9. Click **Next** to enter the **IP Camera Management** window (only supported by HDVR series).

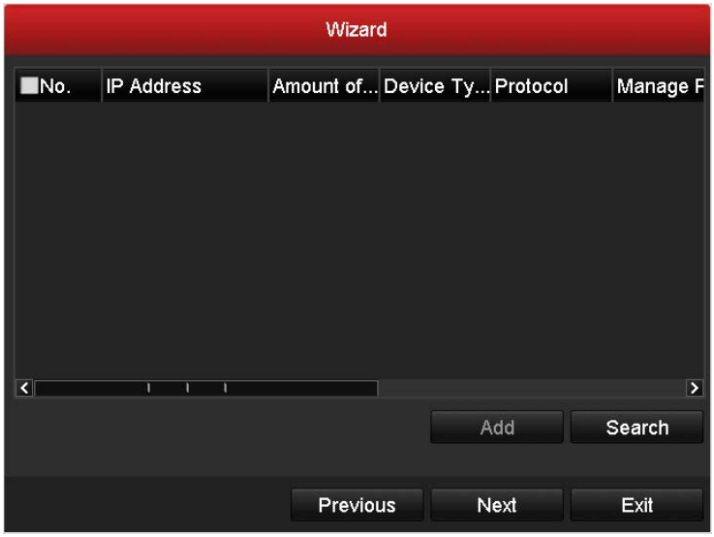


Figure 2.8 IP Camera Management

10. Click **Search** to search IP Camera. Click **Add** to add IP Camera (only supported by HDVR series).
11. After finishing IP Camera settings, click **Next** to enter the **Record Settings** window.
12. Click **Next** button to enter the **Record Settings** window, as shown in Figure 2.9.
    1) Select the camera to configure.
    2) Check the checkbox to enable **Start Recording**.
    3) Select the recording mode to Normal or Motion Detection.

Figure 2.9 Record Settings

4) Click **Copy** to copy the record settings of the current camera to other camera (s) if needed, as shown in Figure 2.10.

Figure 2.10 Copy Record Settings

5) Click **OK** to return to the **Record Settings** window.

13. Click **OK** to complete the startup Setup Wizard.

2.2 Adding and Connecting the IP Cameras

Note: This Chapter is available for the HDVR models only.

2.2.1 Adding the IP Cameras

Purpose:

The HDVR series can be connected with the network cameras and record the video from them. Before you can get a live view or record of the video, you should add the network cameras to the connection list of the device.

Before you start:

Ensure the network connection is valid and correct. For detailed checking and configuring of the network, please see *Chapter 9.1 Configuring General Settings, Chapter 9.3 Checking Network Traffic* and *Chapter 9.4 Network Detection.*

Steps:

1. Enter the Camera Management interface.

   Menu > Camera> Camera

Figure 2.11 Main Menu

2. Add the online cameras:

   1) On the **IP Camera** interface, the online cameras in the same network segment with the device can be detected and displayed on the list. You can click the button **Refresh** to refresh the information of the online cameras.

      Note: For the 4-ch HDVR, 1 IP camera can be added, and for the 8-ch and 16-ch HDVR, 2 IP cameras can be added.

Figure 2.12 IP Camera Management

2) Select a camera from the list and click the icon to add it automatically.
Or click the button **Add All** to add all the online cameras automatically. The user name and password are *admin* and *12345* by default.

3) Optionally, you can click the button **Custom Adding** to enter the Custom Adding interface.

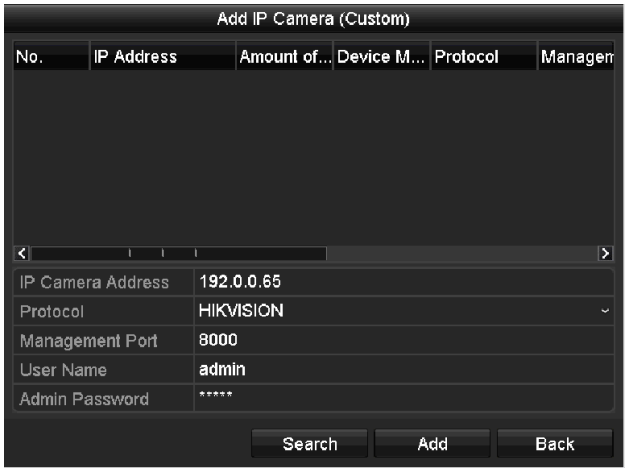


Figure 2.13 Custom Adding of IP Camera

Input the required information, including the IP address, protocol, management port, user name and admin password, and then click the button **Add** to add the camera manually.

4) The successfully added IP cameras are listed in the interface:

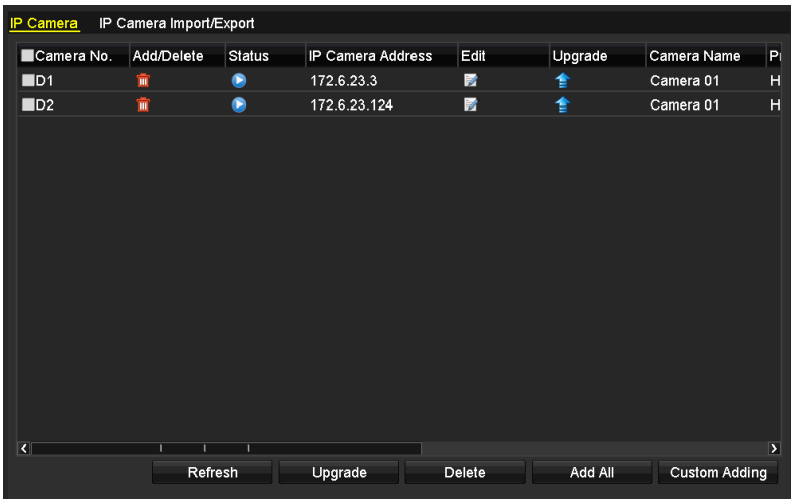


Figure 2.14 Successfully Added IP Cameras

3. Import/Export the configuration file of the IP cameras.

Import the configuration file of IP cameras to the device:

Connect the backup device on which the configuration file is stored.

1) Click the **IP Camera Import/Export** tab.

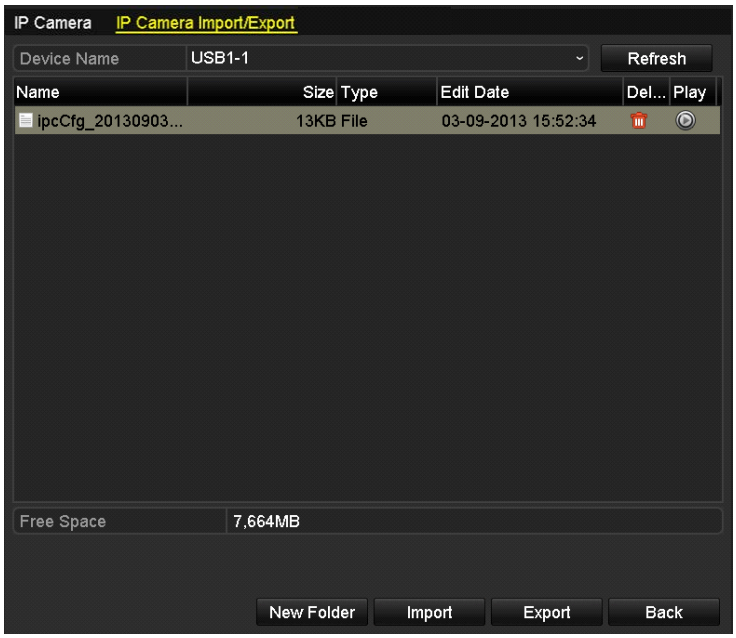


Figure 2.15 Import IP Camera Configuration File

2) Select the backup device from the drop-down list and you can click the **Refresh** button to get the latest information of the backup device.
3) Select the configuration file of IP camera from the list.
4) Click the **Import** button to import the IP cameras to the device.
5) Click **OK** on the pop-up message box after the importing process is complete. The imported IP cameras will be displayed on the IP Camera Management interface.

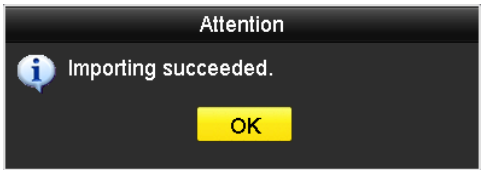


Figure 2.16 Attention-Importing Succeeded

Export the configuration file of IP cameras to backup device:

Connect the backup device on which the configuration file is stored to the device.

1) Click the **IP Camera Import/Export** tab.

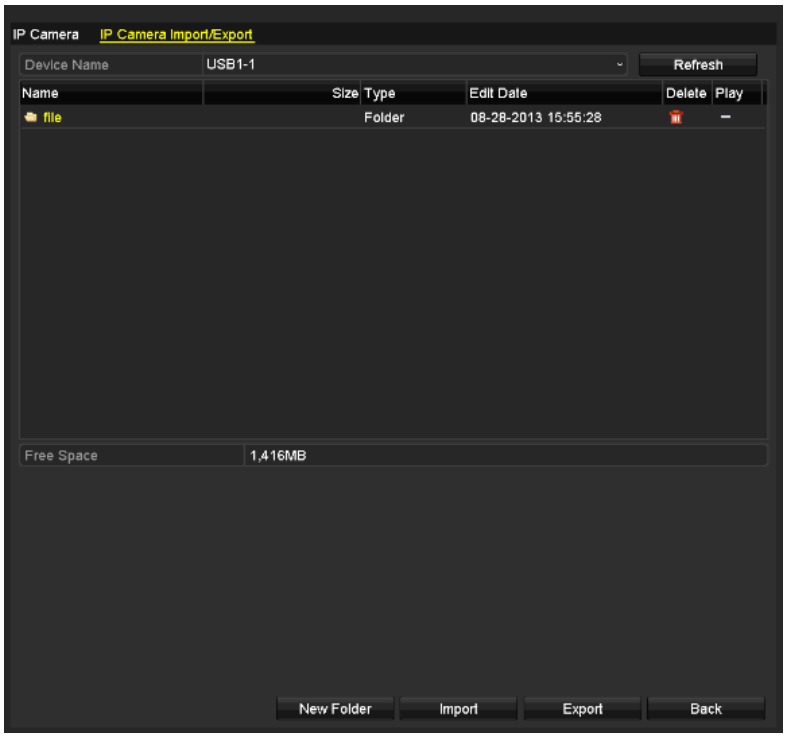


Figure 2.17 Export IP Camera Configuration File

2) Select the backup device from the drop-down list. You can click the **Refresh** button to get the latest information of the backup device.
3) Click the **Export** button to export the configuration file of IP cameras to the backup device.
4) Click **OK** on the pop-up message box after the exporting process is complete. The configuration file of IP cameras will be displayed on a list.

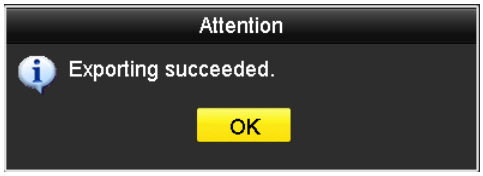


Figure 2.18 Attention-Exporting Succeeded

2.2.2 Configuring the Connected IP Cameras

Editing the connected IP cameras

Purpose:

The detailed information of the added IP cameras will be displayed on a list, and you can configure the basic setting of the cameras if needed.

Steps:

1. Click the icon on the camera list to enter the Edit IP Camera interface.

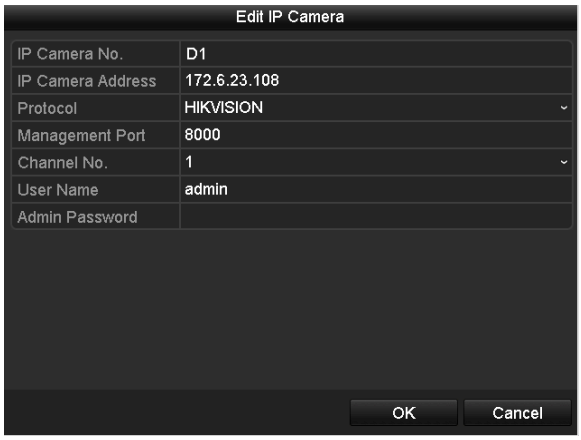


Figure 2.19 Edit IP Camera

2. Edit the camera information, such as the IP address, protocol, port, etc.
3. Click the button **OK** to save the new settings.
4. To delete the added camera, click the icon ;
   Or check the corresponding checkbox and click the button **Delete**.

Description of the icons:

	Add the online IP camera automatically.
	Edit the basic parameters of the added IP camera.
	Delete the added IP camera.
	Get the live view of the added IP camera.
	Upgrade the added IP camera.

C H A P T E R 3

Live View

3.1 Introduction of Live View

Live view shows you the video image getting from each camera in real time. The device automatically enters Live View mode when powered on. It is also at the very top of the menu hierarchy, thus pressing the ESC many times (depending on which menu you're on) brings you to the Live View mode.

Live View Icons

In the live view mode, there are icons at the right top of the screen for each channel, showing the status of the record and alarm in the channel, so that you can know whether the channel is recorded, or whether there are alarms occur as soon as possible.

Table 3.1 Description of Live View Icons

Icons	Description
	Alarm (video loss, tampering, motion detection or sensor alarm)
	Record (manual recording, continuous recording, motion detection or sensor alarm triggered recording)
	Alarm & Record
	Event/Exception (motion detection, sensor alarm or exception information. For details, see *Chapter 8.5 Handling Exceptions.*)

Note: Sensor alarm is not supported by DS-7224/7332-SH, DS-7300-SH, DS-8100-SH and HDVR models only.

3.2 Operations in Live View Mode

In live view mode, the following functions can be realized:

- **Single Screen**: showing only one screen on the monitor.
- **Multi-screen:** showing multiple screens on the monitor simultaneously.
- **Auto-switch:** the screen is auto switched to the next one. And you must set the dwell time for each screen on the configuration menu before enabling the auto-switch.
  Menu>Configuration>Live View>Dwell Time.
- **Playback**: play back the recorded videos for current day.
- **Start Recording**: start all-day normal recording or motion detection recording for all channels.
- **Aux/Main Output Switch:** the DVR will check the connection of the output interfaces to define the main and auxiliary output interfaces. When both HDMI and VGA are connected, or either one is connected, it is used as the auxiliary video output for live view, recording and PTZ controls; When both HDMI and VGA are not connected, it is used as the main video output for live view playback, recording, PTZ control and menu operations.

When the aux output is enabled, you can do some basic operation on the live view mode for the Aux output, while no operation is allowed for the main output.

3.2.1 Front Panel Operation

For the DS-7300-SH and DS-8100-SH models, you can operate the front panel buttons to realize the following functions in live view:

Table 3.2 Front Panel Operation in Live View

Functions	Front Panel Operation
Show single screen	Press the corresponding Alphanumeric button. E.g. Press 2 to display only the screen for channel 2.
Show multi-screen	Press the PREV/FOCUS- button.
Manually switch screens	Next screen: right direction button. Previous screen: left direction button.
Auto-switch	Press **Enter** button.
All-day playback	Press **Play** button.
Switch main and aux output	Press **F1** button and **Enter** button.

3.2.2 Using the Mouse in Live View

In the live view mode, use the mouse to right-click on the window to access the following menu:

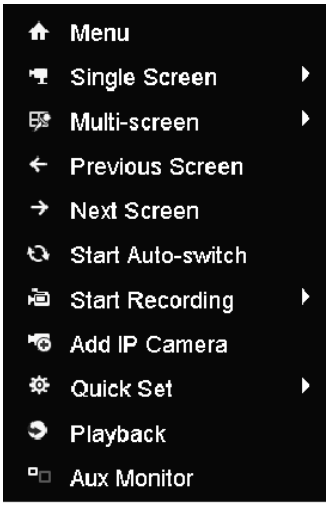


Figure 3.1 Right-click Menu

Table 3.3 Mouse Operation in Live View

Name	Description
Menu	Enter the main menu of the system by right-clicking the mouse.
Single Screen	Switch to the single full screen by choosing channel number from the dropdown list.
Multi-screen	Adjust the screen layout by choosing from the dropdown list.
Previous Screen	Switch to the previous screen.
Next Screen	Switch to the next screen.
Start/Stop Auto-switch	Enable/disable the auto-switch of the screens. ***Note:*** The *dwell time* of the live view configuration must be set before using **Start Auto-switch**.
Start Recording	Start all-day normal recording or motion detection recording for all channels.
Add IP Camera	Enter the IP Camera Management interface to add the locally searched online IP camera quickly.
Quick Set	Set the video output mode to Standard, Bright, Gentle or Vivid.
Playback	Play back the video of the selected channel.
Aux Monitor	Switch to the auxiliary output mode and the operation for the main output is disabled. ***Note:*** If you enter Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled; you need to use the mouse double click for twice to back to the Main output.

Note: The **Add IP Camera** item is provided by the HDVR models only.

3.2.3 Using an Auxiliary Monitor

Certain features of the Live View are also available while in an Aux monitor. These features include:

- **Single Screen:** Switch to the single full screen by choosing channel number from the dropdown list.
- **Multi-screen:** Adjust the screen layout by choosing from the dropdown list.
- **Previous Screen:** Switch to the previous screen.
- **Next Screen:** Switch to the next screen.
- **Quick Set:** Set the video output mode to Standard, Bright, Gentle or Vivid.
- **Menu Output Mode**: Select the menu output mode to HDMI/VGA, Main CVBS or Auto.

- **Main Monitor:** Switch to the Main Output mode and the operation for the auxiliary output is disabled.

Note: In the live view mode of the main output monitor, the menu operation is not available while Aux output mode is enabled.

3.2.4 Main/Aux Output Switching

When the HDMI/VGA output is configured as the main output, you can perform the following operation to switch to CVBS output as the main output.

Steps:

1. Use the mouse wheel to double-click on the HDMI/VGA output screen, and the following message box pops up:

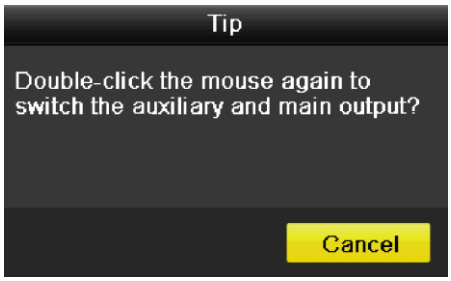


Figure 3.2 Switch Main and Aux Output

2. Use the mouse wheel to double-click on the screen again to switch to the Aux output, or click **Cancel** to cancel the operation.
3. On the aux output monitor, you can do some basic operation on the live view mode for the Aux output, including recording, live view, image settings, switch to main monitor, and no operation is allowed for the main output.
4. To switch to the main vide output, select the **Main Monitor** from the right-click menu or use the mouse wheel to double-click on the screen and then click **Yes** on the pop-up message box.

Note: You can select the Menu Output Mode under Menu>Configuration>More Settings to Auto or HDMI/VGA and then restart the device to switch the main output back to HDMI/VGA output.

3.2.5 Quick Setting Toolbar in Live View Mode

On the screen of each channel, there is a quick setting toolbar which shows when you left-click mouse on the camera.

Figure 3.3 Quick Settings Toolbar

Table 3.4 Description of Quick Setting Toolbar Icons

Icons	Description	Icons	Description	Icons	Description
	Enable Manual Record		Instant Playback		Mute/Audio on
	PTZ Control		Digital Zoom		Image Settings
	Close				

Instant Playback

Instant Playback only shows the record in last five minutes. If no record is found, it means there is no record during the last five minutes.

Digital Zoom

Digital Zoom can zoom in the selected area to the full screen. You can left-click and draw to select the area for zooming in, as shown in Figure 3.4.

Figure 3.4 Digital Zoom

Image Settings

Image Settings icon can be selected to enter the Image Settings menu.

Steps:

1. Set the period of a day for configuring independent image parameters so as to satisfy different light conditions, e.g., daylight and night time. Two periods can be configured. When you have configured Period 1, the Period 2 is remained as the *Other Time*.
2. Select the mode from the drop-down menu according to different light conditions.
   Four modes are selectable:
   - **Standard**: in general lighting conditions (default).
   - **Indoor:** the image is relatively smoother.
   - **Dim Light:** the image is smoother than the other three modes.

- **Outdoor:** the image is relatively clearer and sharper. The degree of contrast and saturation is high.

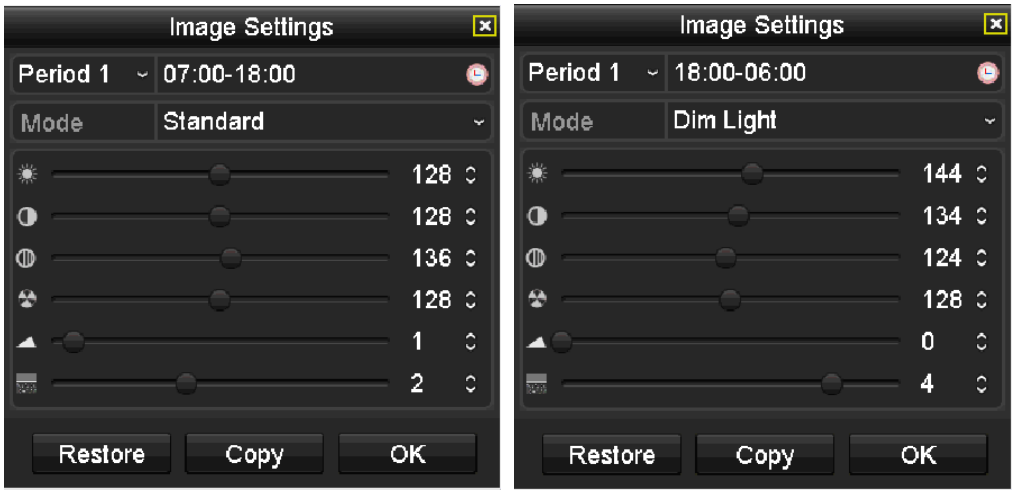


Figure 3.5 Image Settings

3. Adjust the image parameters including the brightness, contrast, saturation, hue, sharpness level and denoising level by moving the sliding bar or increasing/decreasing the value.

   Note: The adjustable value range is 0~255 for the brightness, contrast, saturation and hue, 0~15 for the sharpness level and 0~5 for the denoising level.

4. Copy image parameters.

   1) If you want to copy the image parameters of the current camera to other analog camera (s), click the **Copy** button to enter the **Copy to** interface:

Figure 3.6 Copy Image Settings to Other Camera (s)

   2) Select the analog camera (s) to be configured with the image settings. You can also click the checkbox of Analog to select all cameras.

   3) Click the **OK** button to finish the Copy settings.

Note: You can click the **Restore** button to restore the current image settings to default parameters.

3.3 Configuring Live View Settings

Purpose:

Live View settings can be customized according to different needs. You can configure the output interface, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

Steps:

1. Enter the Live View Settings interface.
   Menu> Configuration> Live View

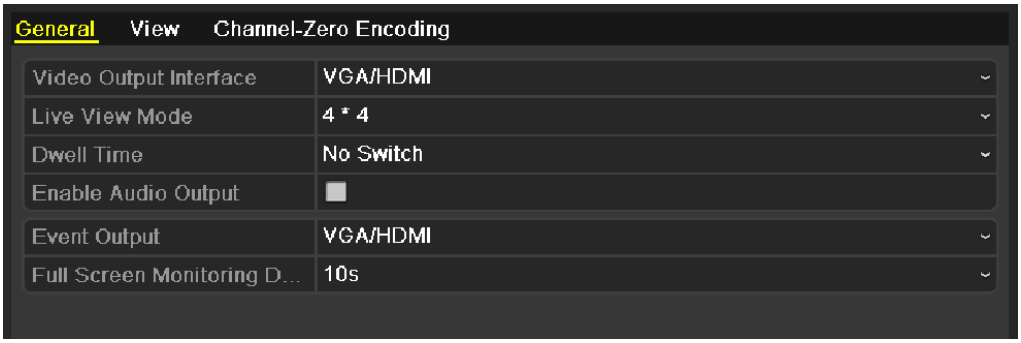


Figure 3.7 Live View-General

The settings available in this menu include:

- **Video Output Interface**: Select the output to configure the settings for. The following interfaces are selectable: VGA/HDMI, Main CVBS and Spot Output 1.
  Note: The Spot Output 1 is provided for DS-7300-SH and DS-8100-SH models.
- **Live View Mode:** Select different window-division mode from the drop-down list.
  For the DS-7232-SH, DS-7332-SH and DS-8132-SH models, 1/4/6/8/9/16/25/36-division window display modes are supported; for the DS-7224-SH, DS-7324-SH and DS-8124-SH models, 1/4/6/8/9/16/25-division window display modes supported; and for other models, 1/4/6/8/9/16-division window display modes are supported.
- **Dwell Time:** The duration between switching of channels when enabling auto-switch in Live View.
- **Enable Audio Output:** Enable/disable audio output for the selected video output.
  Notes:
  1. When the VGA/HDMI output interface is used as the main video output and the **Audio Output** for the VGA/HDMI output interface is enabled, the VGA/HDMI audio and AUDIO OUT can be used for live view, playback and two-way audio.
  2. When the VGA/HDMI output is used as the main video output and the **Audio Output** for the VGA/HDMI output interface is disabled, the VGA/HDMI output provides no audio and the AUDIO OUT is used for two-way audio.
  3. When the CVBS output is used as the main video output, the VGA/HDMI audio is provided for Aux video output in live view, and the AUDIO OUT is used as the main video output(for live view, playback or two-way audio).
- **Event Output:** Select the output to show event video. The following interfaces are selectable: VGA/HDMI, Main CVBS and Spot Output 1.

Note: The Spot Output 1 is provided for DS-7300-SH and DS-8100-SH models.

- **Full Screen Monitoring Dwell Time:** The time in seconds to show alarm event screen.

2. Setting Camera Order

Figure 3.8 Live View- Camera Order

To set the camera order:

1) Click the **View** tab to enter the camera order settings interface.
2) Select an output interface and select a screen layout.
3) Click to select a screen in the right region and double-click to select a channel in the left region. Thus the selected channel will be displayed in the corresponding screen.

   Note: X means the channel will not be displayed.
4) You can click ▶ to start live view of all channels and click ■ to stop live view of all channels. Click ‹ or › to go to the previous or next page.
5) Click the **Apply** button to save the setting.

3.4 Channel-zero Encoding

Purpose:

Sometimes you need to get a remote view of many channels in real time from web browser or CMS (Client Management System) software, in order to decrease the bandwidth requirement without affecting the image quality, channel-zero encoding is supported as an option for you.

Steps:

1. Enter the **Live View** Settings interface.
   Menu> Configuration> Live View
2. Select the **Channel-Zero Encoding** tab.

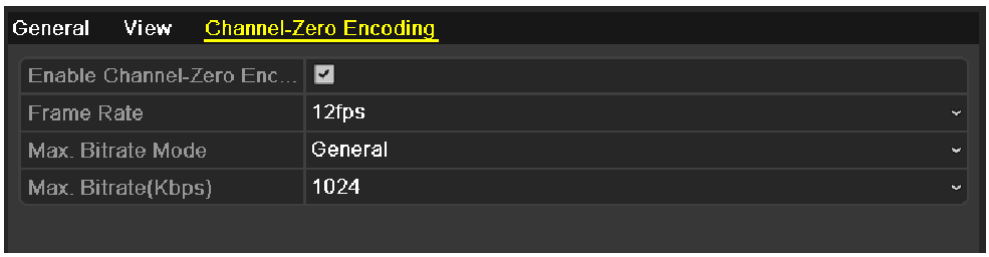


Figure 3.9 Live View- Channel-Zero Encoding

3. Check the checkbox after **Enable Channel-Zero Encoding.**
4. Configure the Frame Rate, Max. Bitrate Mode and Max. Bitrate.

After you set the Channel-Zero encoding, you can get a view in the remote client or Web browser of all the channels in one screen.

3.5 Manual Video Quality Diagnostics

Purpose:

The video quality of the analog cameras can be diagnosed manually and you can view the diagnostic results from a list.

Steps:

1. Enter the Manual Video Quality Diagnostics interface.
   Menu> Manual >Manual Video Quality Diagnostics
2. Check the checkboxes to select the analog channels for diagnostics.
3. Click the button **Diagnose**, and the results will be displayed on a list. You can view the video status and diagnostics time of the selected channels.

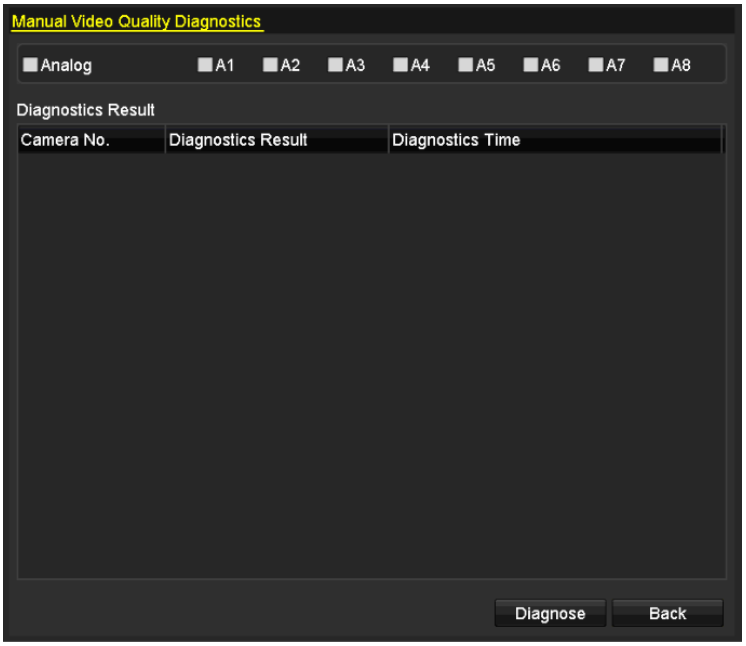


Figure 3.10 Video Quality Diagnostics

Notes:

- Connect the analog signal to the device for the video quality diagnostics.
- Three exception types can be diagnosed: Blurred Image, Abnormal Brightness and Color Cast.
- You can enter Menu> Configuration> Video Quality Diagnostics to adjust the value of the Blurred Image, Abnormal Brightness and Color Cast.

3.6 User Logout

Purpose:

After logging out, the monitor turns to the live view mode and if you want to do some operation, you need to enter user name and password to log in again.

Steps:

1. Enter the Shutdown menu.

   Menu>Shutdown

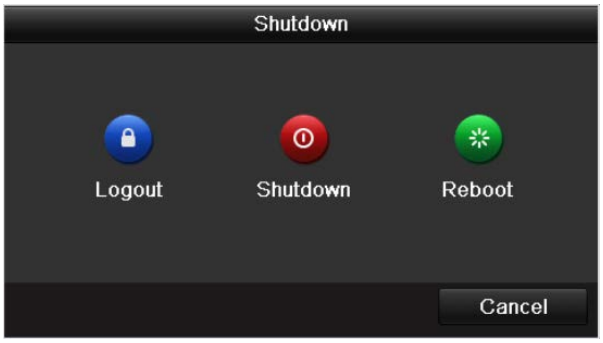


Figure 3.11 Shutdown Menu

2. Click **Logout**.

   Note: After you have logged out the system, menu operation on the screen is invalid. It is required a user name and password to login the system.

C H A P T E R 4

PTZ Controls

4.1 Configuring PTZ Settings

Purpose:

Follow the procedure to set the parameters for PTZ. The configuring of the PTZ parameters should be done before you control the PTZ camera.

Before you start:

Check that the PTZ and the device are connected properly through RS-485 interface.

Steps:

1. Enter the PTZ Settings interface.

   Menu>Camera>PTZ>General

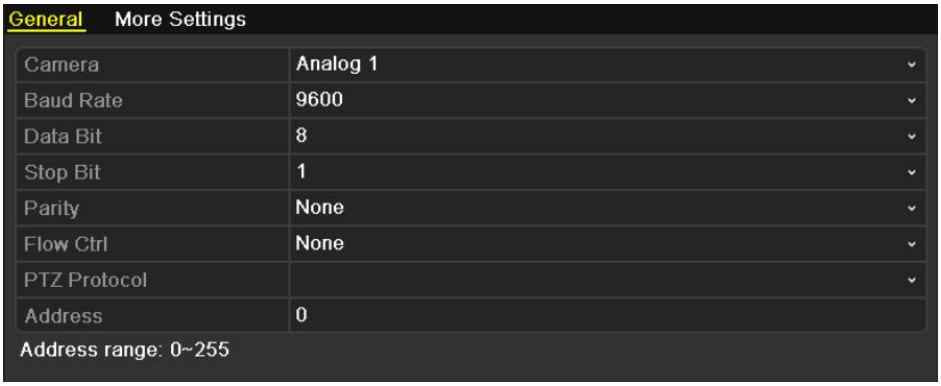


Figure 4.1 PTZ- General

2. Choose the camera for PTZ setting in the **Camera** dropdown list.
3. Enter the parameters of the PTZ camera.

   Note: All the parameters should be exactly the same as the PTZ camera parameters. Only PTZ Protocol can be set for network cameras.

   Example: If the PTZ camera has a Baud rate as 115200, you should input 115200 in the Baud rate field.
4. Click **Copy** if you want to configure same settings to other PTZ cameras.
5. Click **Apply** button to save the settings.

4.2 Setting PTZ Presets, Patrols & Patterns

Before you start:

Please make sure that the presets, patrols and patterns should be supported by PTZ protocols.

4.2.1 Customizing Presets

Purpose:

Follow the steps to set the Preset location which you want the PTZ camera to point to when an event takes place.

Steps:

1. Enter the PTZ Control interface.

Menu>Camera>PTZ>More Settings

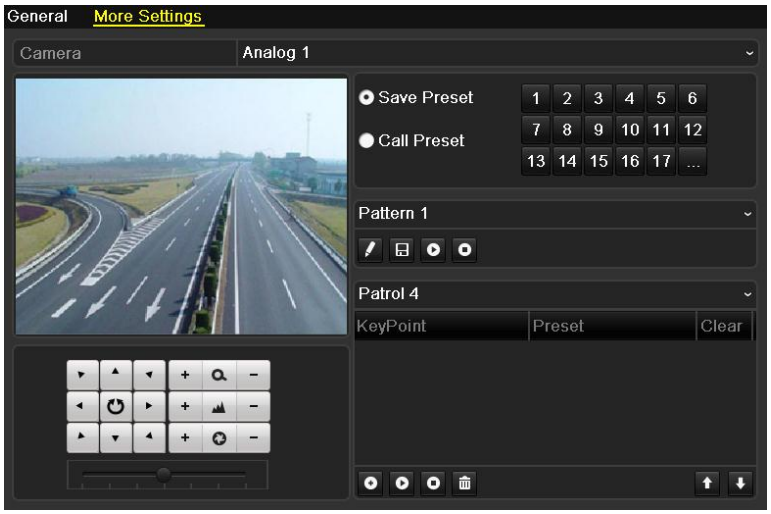


Figure 4.2 PTZ- More Settings

2. Use the directional button to wheel the camera to the location where you want to set preset.
3. Click the round icon before **Save Preset**.
4. Click the preset number to save the preset.

Repeat the steps2-4 to save more presets. If the number of the presets you want to save is more than 17, you can click […] and choose the available numbers.

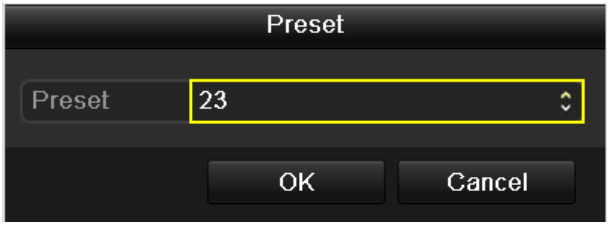


Figure 4.3 More Presets

4.2.2 Calling Presets

Purpose:

This feature enables the camera to point to a specified position such as a window when an event takes place.

Call preset in the PTZ setting interface:

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Check the round icon before **Call Preset**.

Figure 4.4 PTZ- Call Preset

3. Choose the preset number.

Call preset in live view mode:

Steps:

1. Click the PTZ Control icon in the quick setting bar to enter the PTZ setting menu in live view mode.

Figure 4.5 PTZ Toolbar- Call Preset

2. Choose C**amera** in the list on the menu.
3. Choose preset in the **Preset** list.

4.2.3 Customizing Patrols

Purpose:

Patrols can be set to move the PTZ to different key points and have it stay there for a set duration before

moving on to the next key point. The key points are corresponding to the presets. The presets can be set following the steps above in ***Customizing Presets***.

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Select patrol number.
3. Select the under Patrol option box to add key points for the patrol.

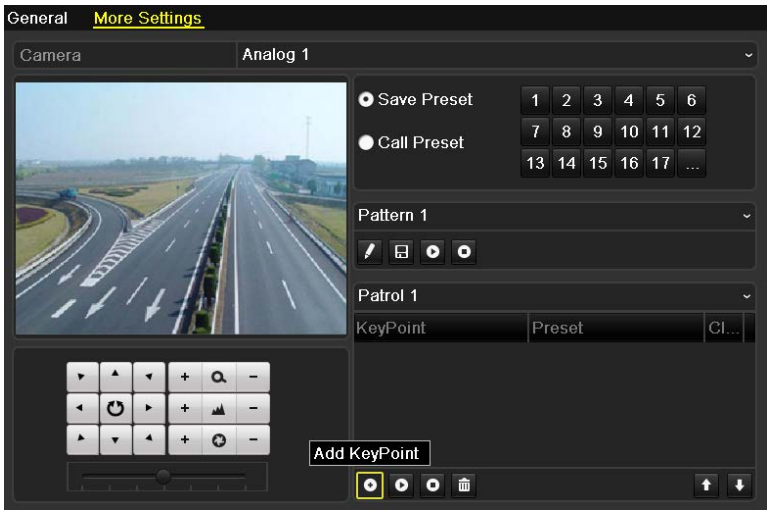


Figure 4.6 PTZ- Add Key Point

4. Configure key point parameters, such as the key point No., duration of staying for one key point and speed of patrol. The key point is corresponding to the preset. The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the speed at which the PTZ will move from one key point to the next.

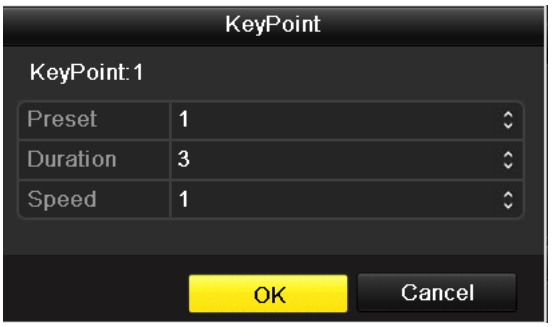


Figure 4.7 Key point Configuration

5. Click **OK** to save the key point to the patrol.

Repeat the above steps to add more key points.

You can also delete all the key points by clicking the trash icon

Figure 4.8 KeyPoints Deletion

4.2.4 Calling Patrols

Purpose:

Calling a patrol makes the PTZ to move according the predefined patrol path.

Call patrol in the PTZ setting interface:

Steps:

1. In the PTZ setting interface.
   Menu> Camera> PTZ> More Settings
2. Select the patrol number, and then click to call the patrol.
3. Click to stop it.

Figure 4.9 Calling Patrol

Call patrol in live view mode:

Steps:

1. Press PTZ control on the IR remote, or click PTZ Control icon on the quick setting toolbar, to show the PTZ control toolbar.
2. Choose **Patrol** on the control bar.
3. Click the patrol you want to call.

Figure 4.10 PTZ Toolbar- Call Patrol

4.2.5 Customizing Patterns

Purpose:

Patterns can be set by recording the movement of the PTZ. You can call the pattern to make the PTZ movement according to the predefined path.

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Choose pattern number in the option box.

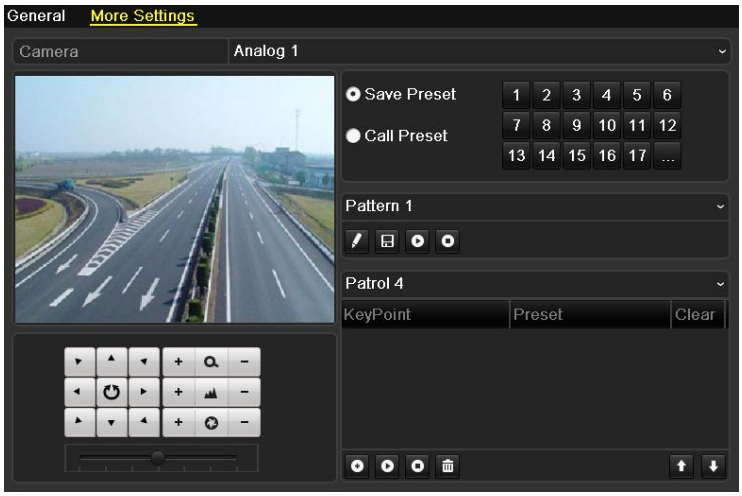


Figure 4.11 PTZ- Pattern

3. Click , and use your mouse to drag the image or click the eight directional buttons in the control box

under the image to move the PTZ camera.

The movement of the PTZ is recorded as the pattern.

4. Click to save the pattern.

   Repeat the above steps to save more patterns.

4.2.6 Calling Patterns

Purpose:

Follow the procedure to move the PTZ camera according to the predefined patterns.

Call pattern in the PTZ setting interface

Steps:

1. Enter the PTZ Control interface.
2. Select the pattern number.
3. Click, then the PTZ moves according to the pattern. Click to stop it.

Figure 4.12 PTZ- Calling Pattern

Call pattern in live view mode.

Steps:

1. In the live view mode, press PTZ control on the IR remote control, or click PTZ Control icon on the quick setting toolbar.
2. And then choose **Pattern** on the control bar.
3. Double click the pattern number you want to call, or you can select the pattern number and click to call the pattern.

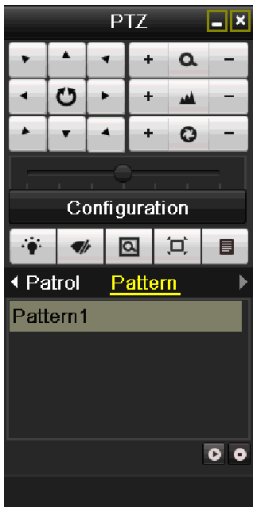


Figure 4.13 PTZ Toolbar- Pattern

4.3 PTZ Control Toolbar

In the Live View mode, you can press the PTZ Control button on the IR remote control, or choose the PTZ Control icon to enter the PTZ toolbar.

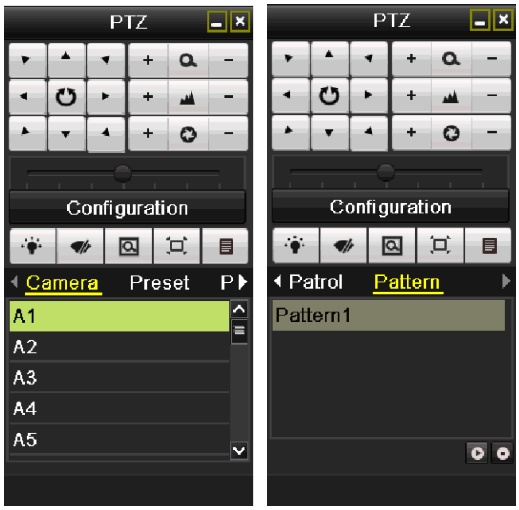
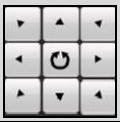


Figure 4.14 PTZ Toolbar

Table 4.1 Description of the PTZ toolbar icons

Icon	Description	Icon	Description	Icon	Description
	Direction button and the auto-cycle button		Zoom+, Focus+, Iris+		Zoom-, Focus-, Iris-
	The speed of the PTZ movement		Light on/off		Wiper on/off
	3D-Zoom		Image Centralization	Preset	Preset
Patrol	Patrol	Pattern	Pattern		Menu
	Previous item		Next item		Start pattern/patrol
	Stop the patrol or pattern movement		Minimize windows		Exit
Configuration	Enter PTZ settings menu				

C H A P T E R 5

Record Settings

5.1 Configuring Encoding Parameters

Purpose:

By configuring the encoding parameters you can define the transmission stream type, the resolution and so on.

Before you start:

1. Make sure that the HDD has already been installed. If not, please install a HDD and initialize it. (Menu>HDD>General)

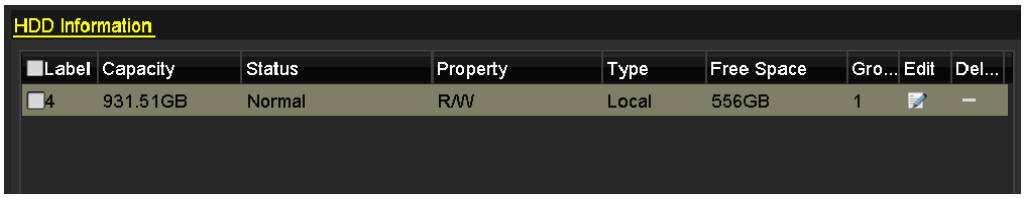


Figure 5.1 HDD- General

2. Check the storage mode of the HDD
   1) Click **Advanced** to check the storage mode of the HDD.
   2) If the HDD mode is *Quota*, please set the maximum record capacity. For detailed information, see *Chapter 10.4 Configuring Quota Mode*.
   3) If the HDD mode is *Group*, you should set the HDD group. For detailed information, see *Chapter 5.8 Configuring HDD Group for Record*.

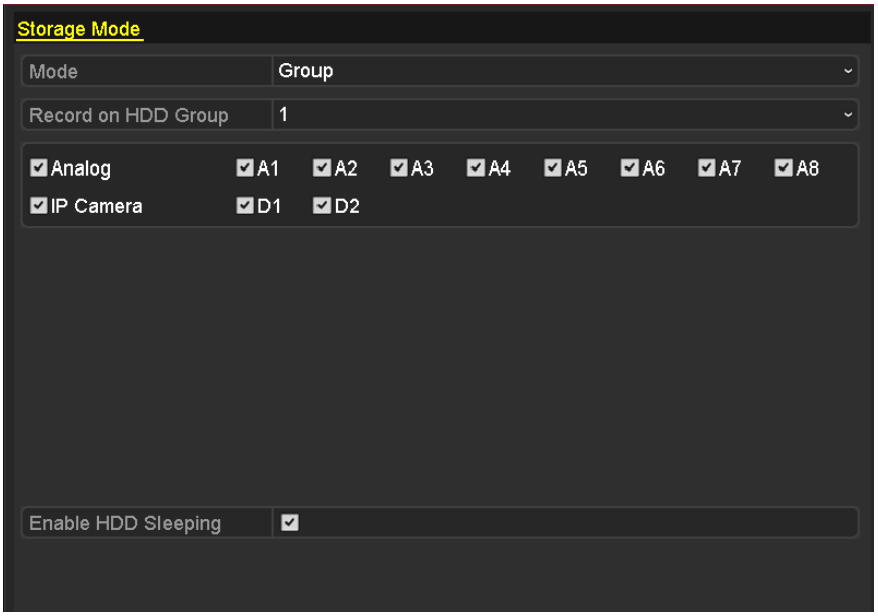


Figure 5.2 HDD- Advanced

Steps:

1. Enter the Record settings interface to configure the encoding parameters:
   Menu>Record>Parameters

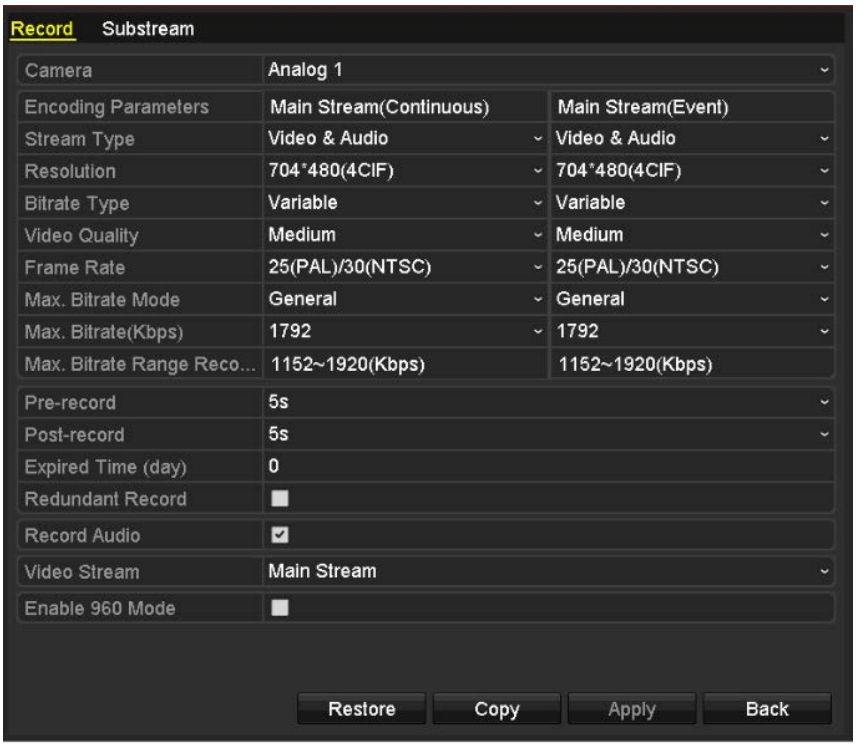


Figure 5.3(1) Encoding Parameters-Main Stream (Analog Camera)

Figure 5.4 (2) Encoding Parameters-Main Stream (IP Camera)

2. Set encoding parameters for main stream

1) Select **Record** to enter the main stream settings interface.
2) Select the camera for configuration.
3) Configure the following parameters for the **Main Stream (Continuous)** and the **Main Stream**

(Event):

Stream Type: Set the stream type to be Video or Video & Audio.

Resolution: Set recording at resolution of WD1, 4CIF, 2CIF, CIF or QCIF.

Bitrate Type: Set the bitrate type to be Variable or Constant.

Video Quality: Set the video quality of recording, with 6 levels configurable.

Notes:

- The WD1 resolution is supported by DS-7204HWI-SV, DS-7224/7232HVI-SH, DS-7200HWI-SH, DS-7200HVI-SV, DS-7200HWI-SL, DS-7300HWI-SH, DS-7300HI-SH, DS-8100HCI-SH and DS-8100HWSI-SH models.
- The Stream Type, Resolution, Bitrate Type and Video Quality are not configurable for the Main Stream (Event) of the IP Camera.
- The selectable resolution for the IP camera is determined by the camera type (please refer to the *Appendix List of Compatible Hikvision IP Cameras*); up to 720P resolution is supported by 4-ch HDVR and 1080P resolution by 8-ch/16-ch HDVR.

Frame Rate: Set the frame rate of recording.

Max. Bitrate Mode: Set the mode to General or Customize (32-3072Kbps).

Max Bitrate (Kbps): Select or customize the maximum bit rate for recording.

Max. Bitrate Range Recommended: A recommended Max. bitrate range is provided for reference.

4) Configure the pre-record, post-record time, expired time, redundant record (this option is only available when the HDD mode is *Group*) and whether you want to record audio.

Pre-record: The time you set to record before the scheduled time or event. For example, when an alarm triggered the recording at 10:00, if you set the pre-record time as 5 seconds, the camera records it at 9:59:55.

Post-record: The time you set to record after the event or the scheduled time. For example, when an alarm triggered the recording ends at 11:00, if you set the post-record time as 5 seconds, it records till 11:00:05.

Expired Time (day): The expired time is the longest time for a record file to be kept in the HDD, if the deadline is reached, the file will be deleted. You can set the expired time to 0, and then the file will not be deleted. The actual keeping time for the file should be determined by the capacity of the HDD.

Redundant Record: Enabling redundant record means you save the record files in the redundant HDD. See *Chapter 5.7 Configuring Redundant Record*.

Notes:

- The **Redundant Record** option is only available when the HDD mode is *Group.*
- The redundant record is used when you want to save the record files in the redundant HDD. You must configure the redundant HDD in HDD settings. For detailed information, see *Chapter 10.3.2 Setting HDD Property*.

Record Audio: Check the checkbox to record the sound, or uncheck to record the image without sound.

Enable 960Mode: Enable the encoding at WD1 (PAL: 960×576, NTSC: 960×480) resolution for the analog cameras. You can also uncheck the checkbox to disable it.

Note: This feature is available for DS-7204HWI-SV, DS-7224/7232HVI-SH, DS-7200HWI-SH, DS-7200HVI-SV, DS-7200HWI-SL, DS-7300HWI-SH, DS-7300HI-SH, DS-8100HCI-SH and

DS-8100HWSI-SH models only.

5) Select the **Main Stream** and **Substream** for analog camera recording. When the substream is selected, you can record for a longer time with the same storage space.

6) If you want to copy the current main stream settings to other analog camera (s), click **Copy** to enter the Copy Camera interface. Select the analog camera (s) and click **OK** to finish the copy settings.

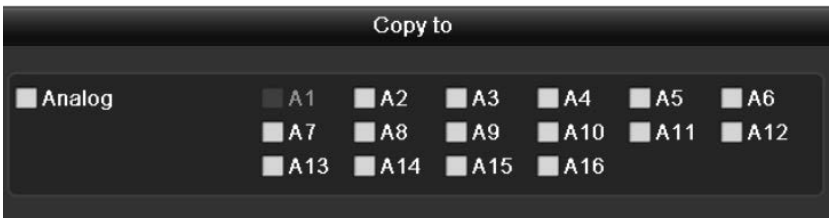


Figure 5.5 Copy Camera Settings

7) On the Record settings interface, click **Apply** to save the settings.

Note: You can click the **Restore** button to restore the current main stream settings to the default parameters.

3. Set encoding parameters for sub-stream.

1) Click the **Substream** tab to enter the Substream settings interface.

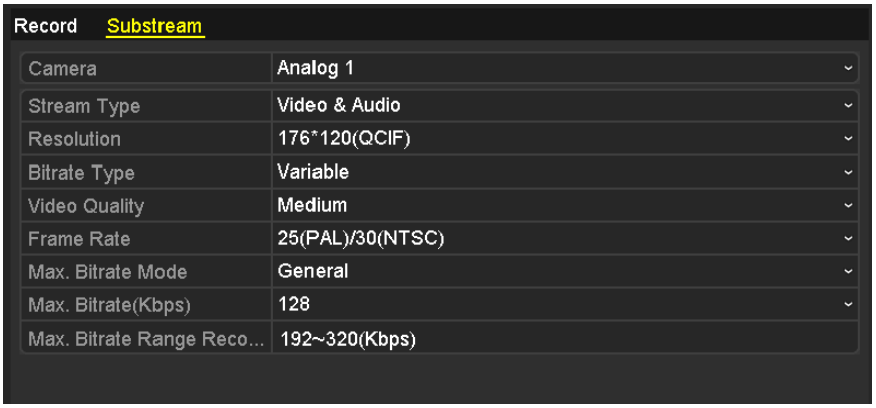


Figure 5.6 Encoding Parameters-Sub-stream

2) Configure the parameters for the sub-stream. Refer to the step of main stream settings.

3) Click **Apply** to save the settings.

Note: You can click the **Restore** button to restore the current sub-stream settings to the default parameters.

4) If you want to copy the current sub-stream settings to other camera (s), click **Copy** to enter the Copy Camera interface. Select the camera (s) and click **OK** to finish the copy settings.

5.2 Configuring Record Schedule

Purpose:

Set the record schedule, and then the camera automatically starts/stops recording according to the configured schedule.

Steps:

1. Enter the Record Schedule interface.

   Menu>Record>Schedule

2. Configure Record Schedule

   1) Click **Schedule** to enter the record schedule settings interface.

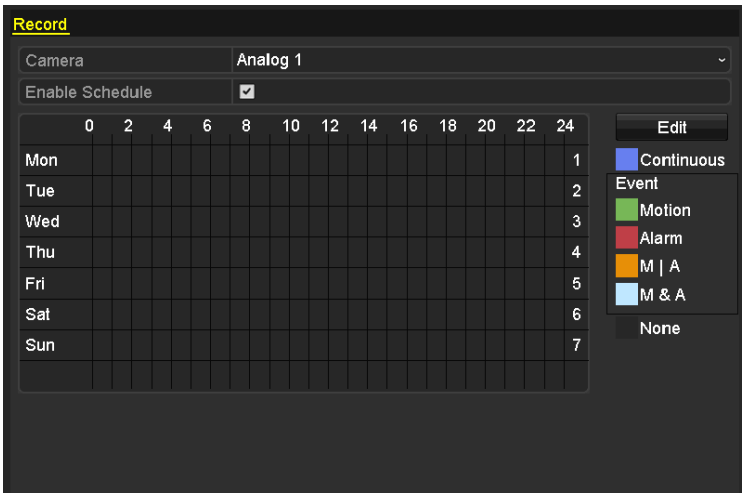


Figure 5.7 Record Schedule

   2) Choose the camera you want to configure.

   3) Check the check box after the **Enable Schedule** item.

   There are two ways to configure the record schedule.

   Task 1: Edit the Schedule

   Steps:

   1) Click **Edit**.

   2) In the message box, you can choose the day which you want to set schedule.

   3) To schedule an all-day recording, check checkbox to enable all-day recording.

   4) Set the Type in the dropdown list. Different recording types are available for different models.

      DS-7204/7208/7216 –SH, DS-7200-SV and DS-7200HWI-SL: Continuous and Motion.

      DS-7224/7232–SH, DS-7300-SH and DS-8100-SH: Continuous, Motion, Alarm, Motion/Alarm and Motion & Alarm.

      Note: To enable Motion triggered recording, you must configure the motion detection settings as well. For detailed information, refer to *Chapter 8.1* and *Chapter 8.2*.

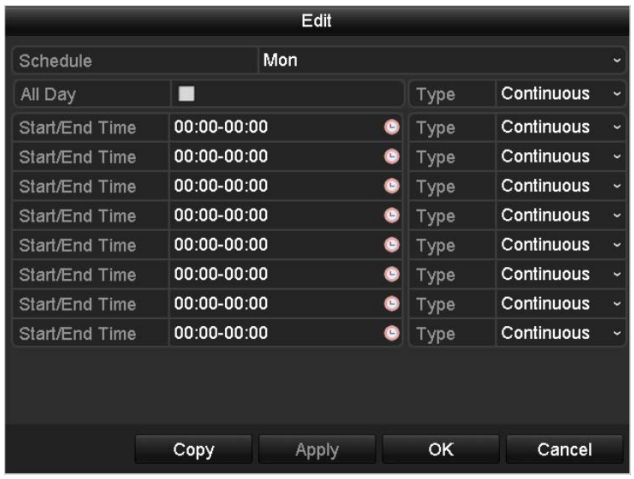


Figure 5.8 Edit Schedule

5) To arrange other schedule, leave the **All Day** checkbox blank and set the Start/End time and Type.

Note: Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other. Repeat the above steps2)-5) to schedule recording for other days in the week. If the schedule can also be set to other days, click **Copy**.

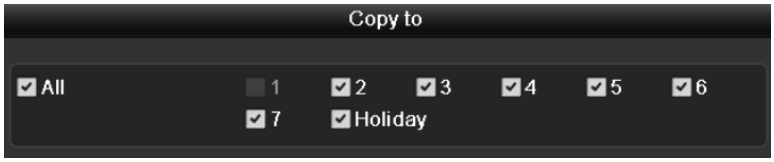


Figure 5.9 Copy Schedule to Other Days

Note: The **Holiday** option is available in the Schedule dropdown list when you have enabled holiday schedule in **Holiday Settings**. Refer to *Chapter 5.6 Configuring Holiday Record.*

Figure 5. 10 Holiday Settings

6) Click **OK** to save setting and back to upper level menu.

Task 2: Draw the Schedule

Steps:

1) Click the icon on the right to select a record type. Different recording types are available for different models.

   DS-7204/7208/7216 –SH, DS-7200-SV and DS-7200HWI-SL: Continuous and Motion.

   DS-7224/7232–SH, DS-7300-SH and DS-8100-SH: Continuous, Motion, Alarm, Motion/Alarm and Motion & Alarm.

   Note: To enable Motion triggered recording, you must configure the motion detection settings. For detailed information, refer to *Chapter 8.1* and *Chapter 8.2*.

2) Use the mouse to drag and draw time periods.

   Note: Up to 8 periods can be configured for each day.

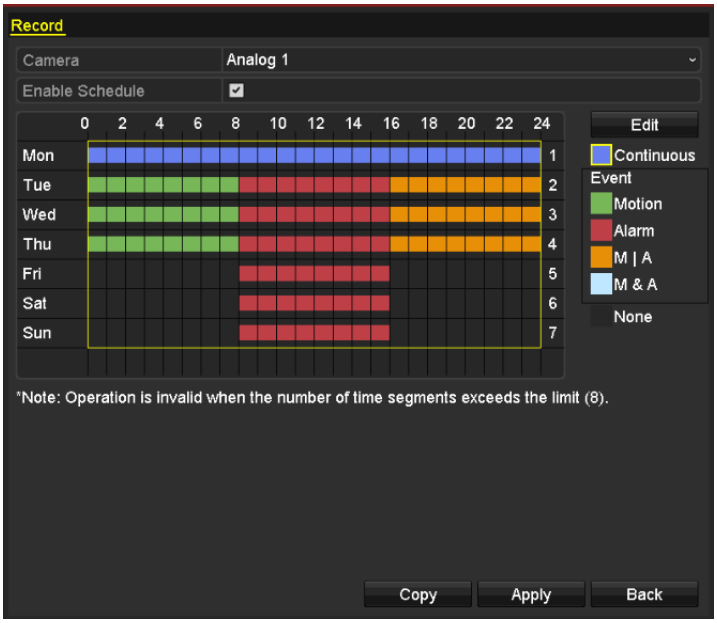


Figure 5.11 Draw the Schedule

3) You can repeat the above steps to set schedule for other channels. If the settings can also be used to other channels, click **Copy** to enter the Copy Camera interface and then choose the channel to which you want to copy.

Figure 5.12 Copy Schedule to Other Channels

4) Click **Apply** in the Record Schedule interface to save the settings.

5.3 Configuring Motion Detection Record

Purpose:

Follow the steps to set the motion detection parameters. In the live view mode, once a motion detection event takes place, the device can analyze it and perform some response actions to handle it. Enabling motion detection function can trigger certain channels to start recording, or trigger full screen monitoring, audio warning, notify the surveillance center and so on. In this chapter, you can follow the steps to schedule a record which triggered by the detected motion.

Steps:

1. Enter the Motion Detection interface.

   Menu>Camera>Motion

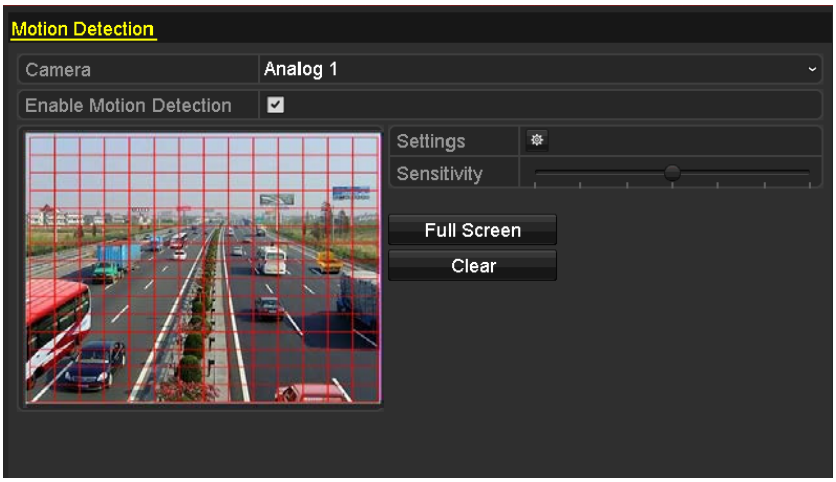


Figure 5.13 Motion Detection

2. Configure Motion Detection:
   1) Select the camera to configure.
   2) Check the checkbox after **Enable Motion Detection**.

      Note: By default, the motion detection is enabled and configured in full screen.
   3) Drag and draw the area for motion detection by mouse. If you want to set the motion detection for all the area shot by the camera, click **Full Screen**. To clear the motion detection area, click **Clear**.

Figure 5.14 Motion Detection- Mask

4) Click the beside **Settings** and the message box for channel information will pop up.

Figure 5.15 Motion Detection Handling

Note: **IP Camera** is supported by HDVR series only.

5) Select the channels which you want the motion detection event to trigger recording.
6) Click **Apply** to save the settings.
7) Click **OK** to back to the upper level menu.
8) Exit the Motion Detection menu.

3. Enter Schedule settings interface.

Menu> Parameters> Schedule

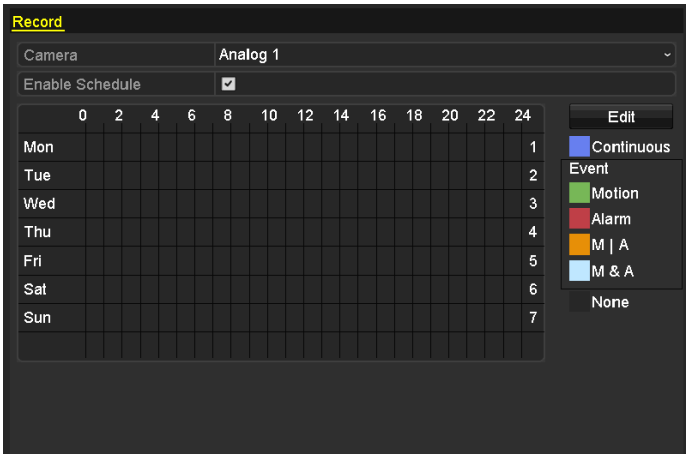


Figure 5.16 Record Schedule

1) Check the checkbox after the **Enable Schedule** item.
2) Click **Edit**.

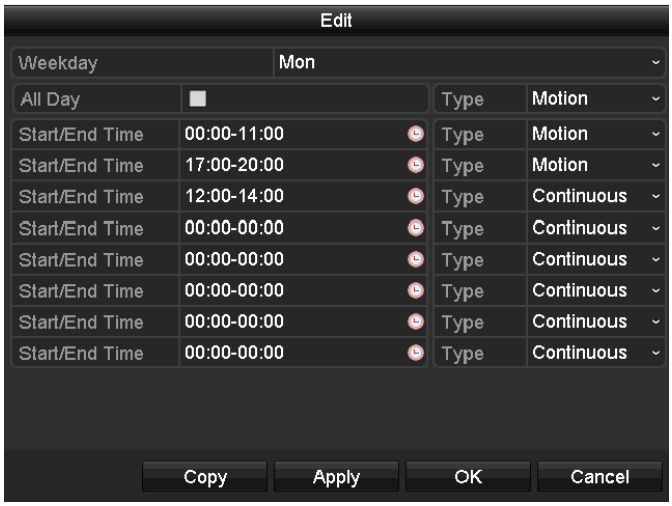


Figure 5.17 Edit Schedule- Motion Detection

3) In the message box, you can choose the day to which you want to set schedule.
4) Set the **Type** as **Motion**.
5) To schedule an all-day recording, check the checkbox after the **All Day** item.
6) To arrange other schedule, leave the **All Day** checkbox blank and set the Start/End time.

   Note: Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other.

   Repeat the above steps3)-6) to schedule motion detection triggered recording for all the week. If the schedule can also be set to other days, click **Copy**.

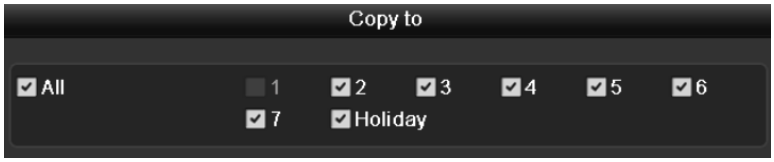


Figure 5.18 Copy Schedule to Other Days

7) Click **OK** to back to upper level menu.

If you can to copy the same schedule settings to other camera (s), click **Copy** to enter the Copy Camera interface, and then select the camera (s) you want to copy.

Figure 5.19 Copy Schedule to Other Channels

5.4 Configuring Alarm Triggered Record

Note: This section is available for DS-7224/7332-SH, DS-7300-SH, DS-8100-SH and HDVR models only.

Purpose:

Follow the procedure to configure alarm triggered recording.

Steps:

1. Enter the Alarm setting interface.

   Menu> Configuration> Alarm

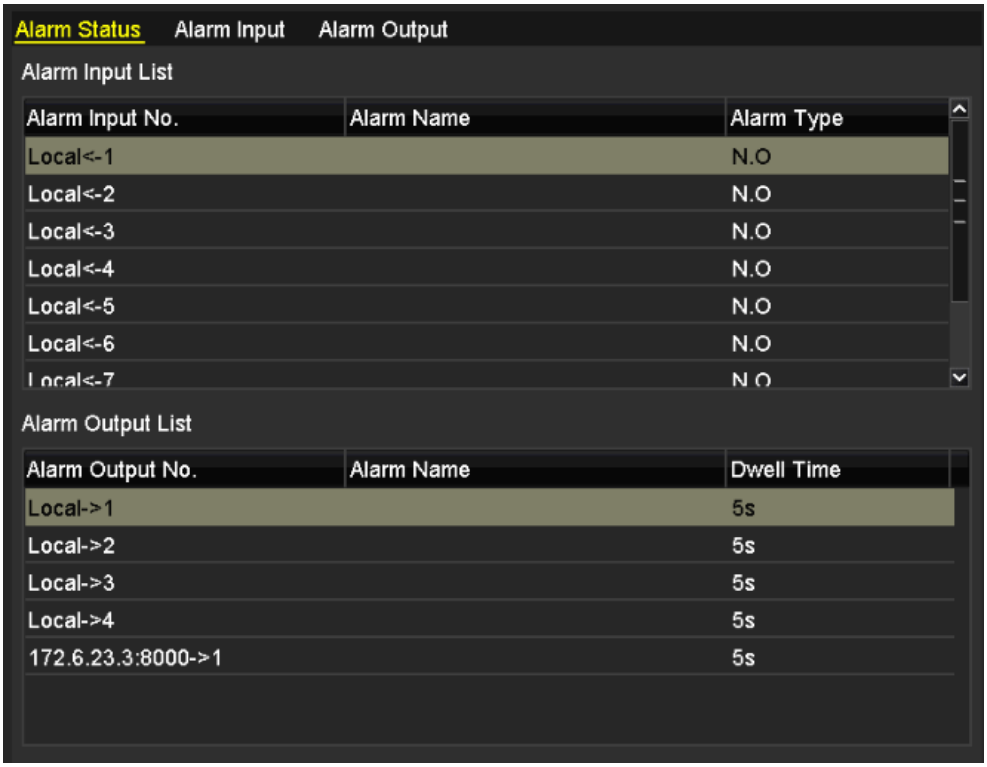


Figure 5.20 Alarm Settings

2. Click **Alarm Input** tab.

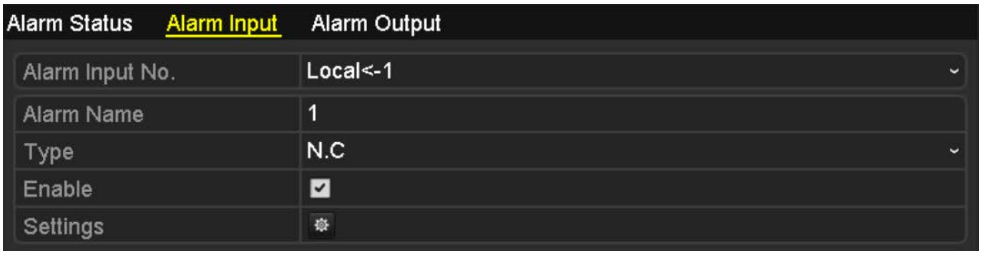


Figure 5.21 Alarm Settings- Alarm Input

1) Select Alarm Input No. and configure alarm parameters.
2) Choose N.O (normally open) or N.C (normally closed) for alarm type.
3) Check checkbox to enable the alarm input.
4) Click to set the handling method.

Figure 5.22 Alarm Handling

Note: **IP Camera** is supported by HDVR series only.

5) Choose the alarm triggered recording channel.
6) Check the checkbox to select channel.
7) Click **Apply** to save settings.
8) Click **OK** to back to the upper level menu.
9) Click **Apply** in the Alarm Input interface to save the settings.

Repeat the above steps to configure other alarm input parameters.

If the setting can also be applied to other alarm inputs, click **Copy** and choose the alarm input number.

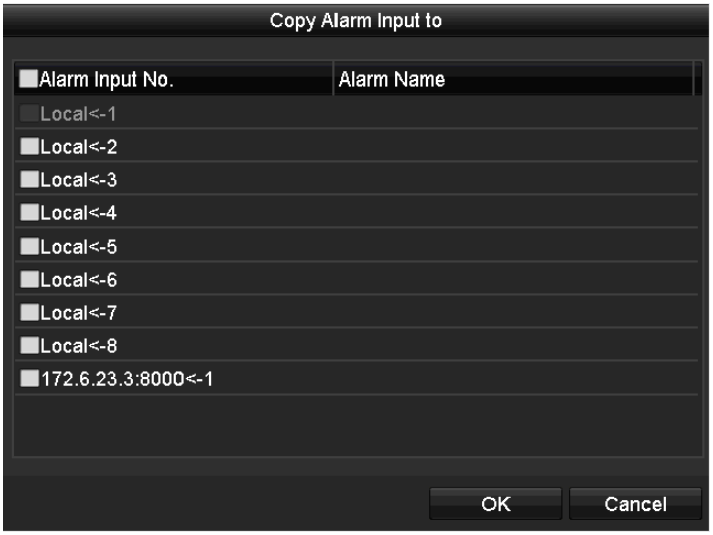


Figure 5.23 Copy Alarm Input

3. Enter Record Schedule settings interface (Menu> Record > Schedule > Record Schedule). For detailed information about record schedule settings, refer to step 2 in *Chapter 5.2 Configuring Record Schedule.*

Note: You need to select the **Type** as Alarm in record schedule settings.

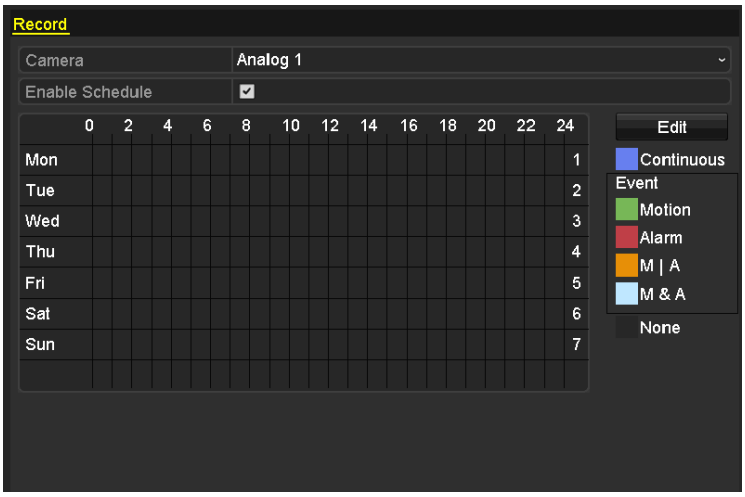


Figure 5.24 Record Schedule

5.5 Configuring Manual Record

Purpose:

Follow the steps to set parameters for the manual record. When using manual record, you need to manually cancel the record. The manual recording is prior to the scheduled recording.

Steps:

1. Enter the Manual settings interface.

   Menu> Manual

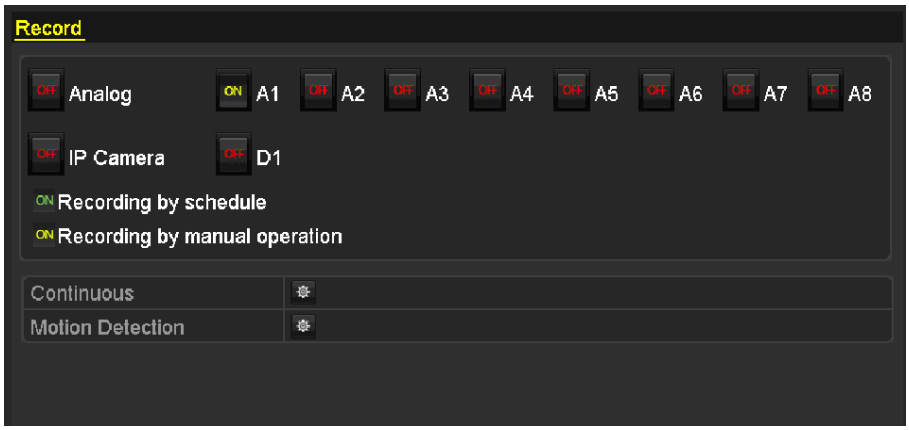


Figure 5.25 Manual Record

Note: **IP Camera** is supported by HDVR series only.

2. Enable recording for camera (s).

   Click the status button beside each camera number to change OFF to ON, or you can enable recording for all cameras by clicking the status bar before **Analog** to change it to ON.

3. Set recording mode to manual.

   By default, the camera is enabled with recording by schedule (ON). Click the ON status bar to change it to OFF and click again to enable the recording to manual (ON).

   ON: recording by schedule.

   ON: recording by manual operation.

   Note: After rebooting, all the manual records enabled are canceled.

4. Start all-day continuous recording or all-day motion detection recording of all channels.

   1) Click for Continuous or Motion Detection recording.

Figure 5.26 Start Normal or Motion Detection Recording

   2) Click **Yes** to enable all-day normal recording or all-day motion detection recording of all channels.

5.6 Configuring Holiday Record

Purpose:

You may want to have different plan for recording on holiday. Follow the steps to configure the record schedule on holiday.

Steps:

1. Enter the Record setting interface.
   Menu>Record
2. Choose **Holiday** on the left bar.

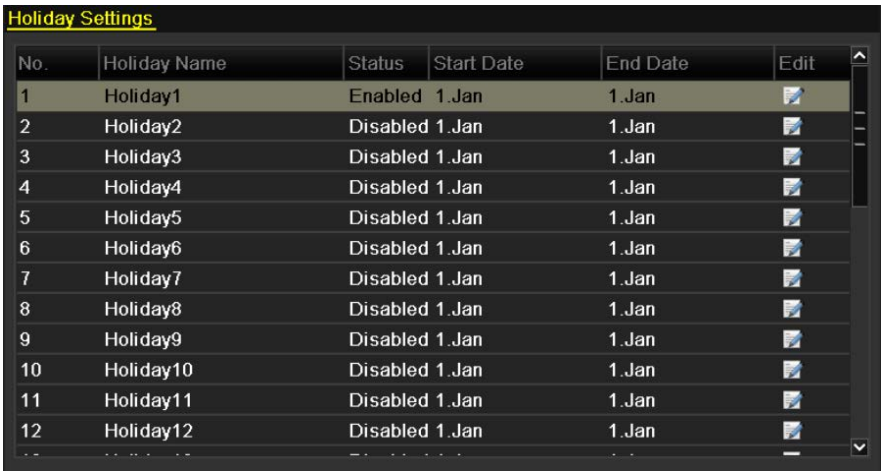


Figure 5.27 Holiday Settings

3. Enable Edit Holiday schedule.
   1) Click to enter the Edit interface.

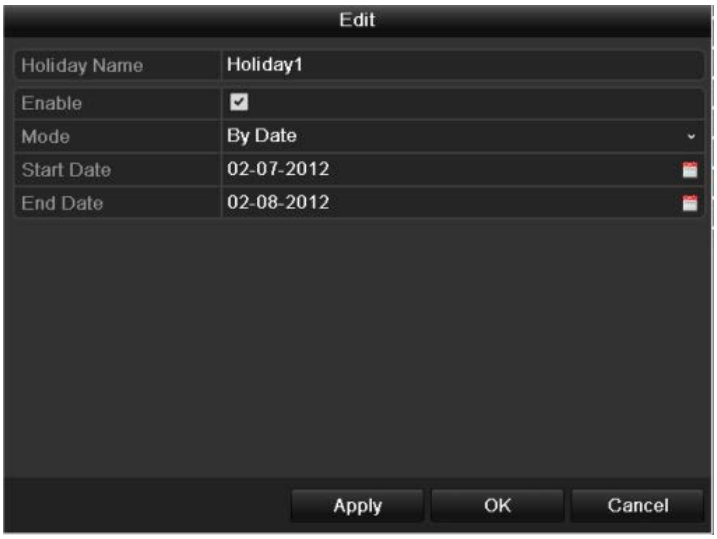


Figure 5.28 Edit Holiday Settings

   2) Check the checkbox after **Enable**.
   3) Select Mode from the dropdown list.
      There are three different modes for the date format to configure holiday schedule.
   4) Set the start and end date.

5) Click **Apply** to save settings.

6) Click **OK** to exit the Edit interface.

4. Enter Record Schedule settings interface.

Menu> Record> Schedule

1) Select **Record.**

2) Check the checkbox after **Enable Schedule**.

3) Click **Edit.**

4) Select **Holiday** from the **Schedule** dropdown list.

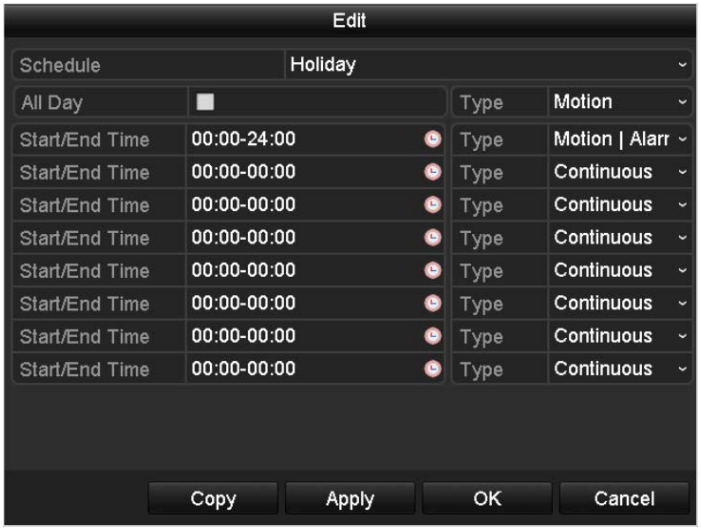


Figure 5.29 Edit Schedule- Holiday

5) Select **Motion** or **Continuous** from the **Type** dropdown list.

6) If you need all day recording, check the **All Day** checkbox. Otherwise leave it blank.

7) Set start/end time for holiday schedule.

Note: Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other.

In the time table of the channel, both holiday schedule and normal day schedule are displayed.

Repeat the above steps4)-7) to set Holiday schedule for other channel. If the holiday schedule can also be used to other channels, click **Copy** and choose the channel you want to apply the settings.

5.7 Configuring Redundant Record

Purpose:

Enabling redundant recording, which means saving the record files not only in the R/W (read/write) HDD but also in the redundant HDD, will effectively enhance the data safety and reliability.

Note: You must set the Storage mode in the HDD advanced settings to Group before you set the HDD property to Redundant. For detailed information, please refer to *Chapter 10.4 Managing HDD Group*. There should be at least another HDD (NetHDD) which is in R/W mode.

Steps:

1. Enter HDD Information interface.

   Menu> HDD

Figure 5.30 HDD General

2. Select the **HDD** and click to enter the Local HDD Settings interface.

   1) Set the HDD property to Redundant.

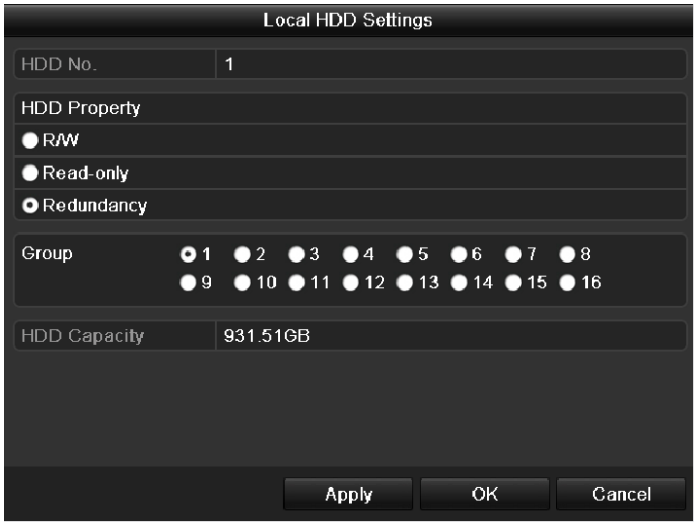


Figure 5.31 HDD General-Editing

   2) Click **Apply** to save the settings.

   3) Click **OK** to back to the upper level menu.

3. Enter the Record setting interface.

   Menu> Record> Parameters

   1) Select **Record.**

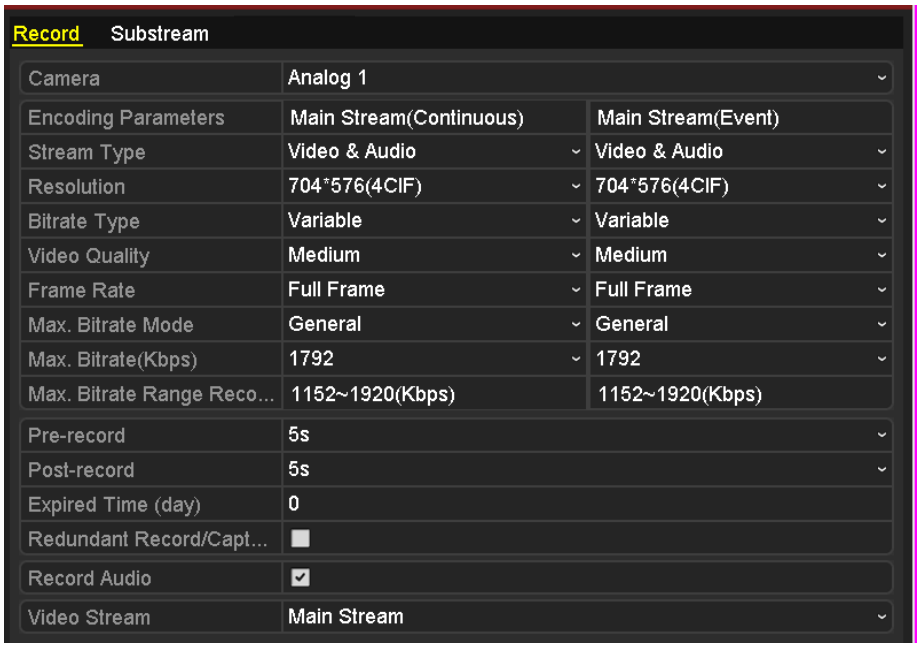


Figure 5.32 Encoding Record

2) Select Camera you want to configure.

3) Check the checkbox of the **Redundant Record**.

Notes:

1. The **Redundant Record** option is only available when the HDD mode is *Group.*

2. The redundant record is used when you want to save the record files in the redundant HDD. You must configure the redundant HDD in HDD settings. For detailed information, see *Chapter 10.3.2 Setting HDD Property*.

4) Click **Apply** to save settings and back to the upper level menu.

5) Repeat the above steps2)-4) for configuring other channels.

5.8 Configuring HDD Group for Record

Purpose:

You can group the HDDs and save the record files in certain HDD group.

Steps:

1. Enter HDD setting interface.

   Menu>HDD

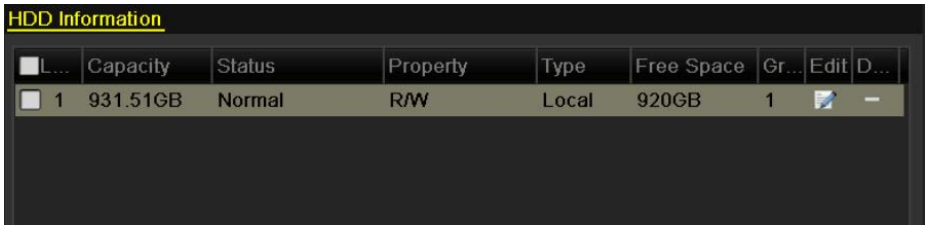


Figure 5.33 HDD-General

2. Select **Advanced** on the left bar.

   Check whether the storage mode of the HDD is Group. If not, set it to Group. For detailed information, please refer to *Chapter 10.3 Managing HDD Group*.

3. Select **General** in the left bar.

   Click to enter editing interface.

4. Configuring HDD group.

   1) Choose a group number for the HDD group.

   2) Click **Apply** and then in the pop-up message box, click **Yes** to save your settings.

   3) Click **OK** to back to the upper level menu.

Repeat the above steps3-4 to configure more HDD groups.

5. Choose the Channels which you want to save the record files in the HDD group.

   1) Select **Advanced** on the left bar.

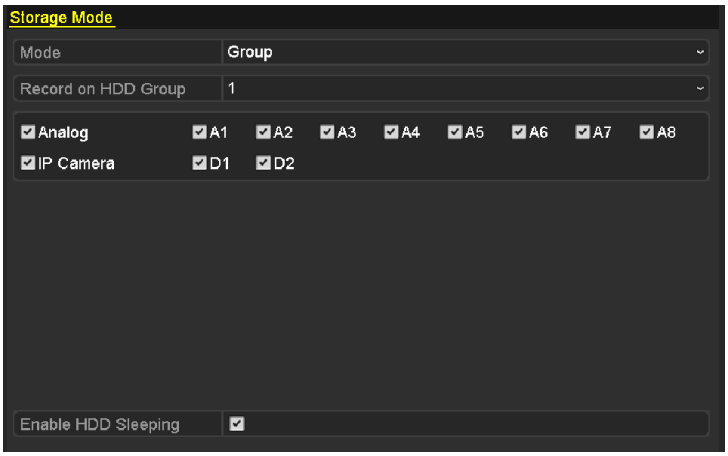


Figure 5.34 HDD-Advanced

   2) Choose Group number in the dropdown list of **Record on HDD Group.**

   3) Check the channels you want to save in this group.

   4) Click **Apply** to save settings.

Note: After having configured the HDD groups, you can configure the Recording settings following the procedure provided in *Chapter 5.2-5.6*.

5.9 Files Protection

Purpose:

You can lock the recorded files or set the HDD property to Read-only to protect the record files from being overwritten.

Protect file by locking the record files:

Steps:

1. Enter Playback setting interface.
   Menu> Export

Figure 5.35 Export

2. Select the channels by checking the checkbox to .
3. Configure the record type, file type and start/end time.
4. Click **Search** to show the results.

Figure 5.36 Playback- Search Result

5. Protect the record files.

1) Find the record files you want to protect, and then click the icon which will turn to , indicating that the file is locked.

Note: The record files of which the recording is still not completed can't be locked.

2) Click to change it as to unlock the file and the file is not protected.

Figure 5.37 Unlocking Attention

Protect file by setting HDD property to Read-only

Note: To edit HDD property, you need to set the storage mode of the HDD to Group. See *Chapter 10.3 、、Managing HDD Group.*

Steps:

1. Enter HDD setting interface.

Menu> HDD

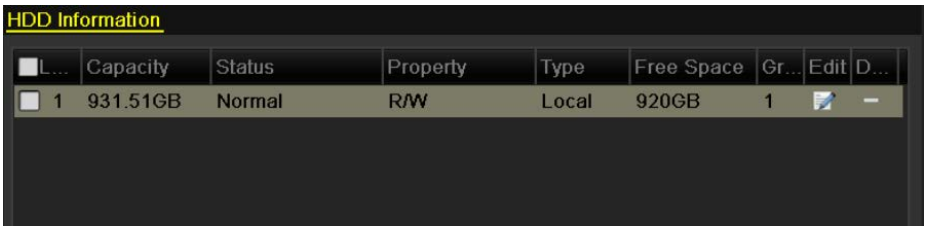


Figure 5.38 HDD General

2. Click to edit the HDD you want to protect.

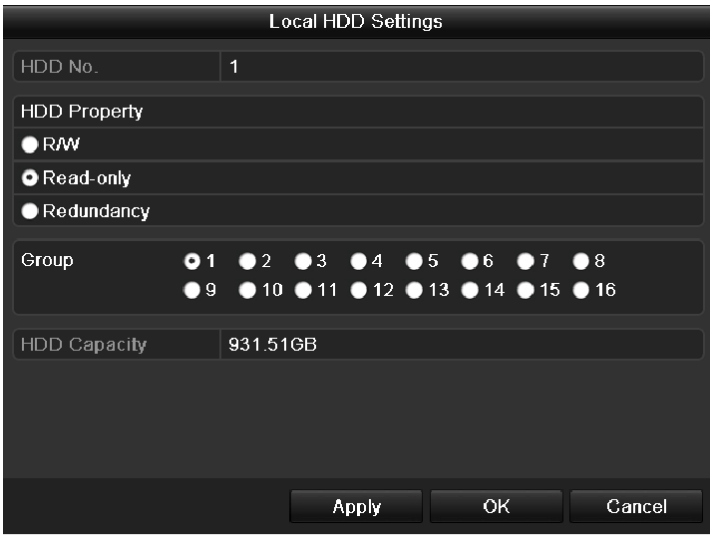


Figure 5.39 HDD General- Editing

3. Set the HDD to Read-only.

4. Click **OK** to save settings and back to the upper level menu.

Note: You can't save any files in a Read-only HDD. If you want to save files in the HDD, change the property to R/W.

Note: If there is only one HDD and is set to Read-only, the device can't record any files. Only live view mode is available.

If you set the HDD to Read-only when the device is saving files in it, then the file will be saved in next R/W HDD. If there is only one HDD, the recording will be stopped.

C H A P T E R 6

Playback

6.1 Playing Back Record Files

6.1.1 Playing Back by Channel

Purpose:

Play back the recorded video files of a specific channel in the live view mode. Channel switch is supported.

Instant playback by channel:

Steps:

Choose a channel in live view mode using the mouse and click the button in the quick setting toolbar.

Note: Only record files recorded during the last five minutes on this channel will be played back.

Figure 6.1 Instant Playback Interface

All-day Playback by channel

1. Enter the All-day Playback interface.

   Mouse: right click a channel in live view mode and select **Playback** from the menu, as shown in Figure 6.2.

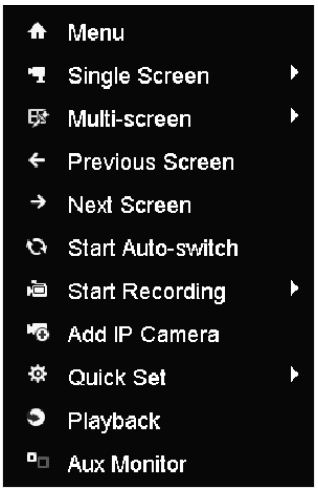


Figure 6.2 Right-click Menu under Live View

Note: The **Add IP Camera** item is available for the HDVR only.

Press **PLAY** button on the IR remote control to play back record files of the channel under single-screen live view.

Under multi-screen live view, record files of the selected channel will be played back.

Note: Pressing numerical buttons will switch playback to the corresponding channels during playback process.

2. Playback management.

The toolbar in the bottom part of Playback interface can be used to control playing progress, as shown in Figure 6.3.

Figure 6.3 Playback Interface

Check the checkboxes to select the channel(s), and then the video from the selected channels will be played back synchronously. Up to 16 channels can be set for synchronous playback.

Click the **Max. Camera for Playback** tab, and you can play back the video from 16 channels at a time.

Click the **Min. Camera for Playback** tab, and you can play back the video from only one channel.

Dates marked in different colors:

- No record files in this day.
- There is record file(s) in this day (not current day).
- There is only event recording file(s) in this day (not current day).
- Mouse cursor is located.

Figure 6.4 Toolbar of All-day Playback

Table 6.1 Detailed Explanation of All-day-playback Toolbar

Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search		Pause/ Play Reverse
	Stop		30s backward		30s forward
	Slow forward		Fast forward		Previous day
	Next day		Scaling up/down time bar		Process bar
	Full Screen		Exit		Video type bar
Normal	Normal playback				

Notes:

- Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.
- About video type bar: represents normal recording (manual or schedule); represents event recording; represents smart search recording.

6.1.2 Playing Back by Time

Purpose:

Play back video files recorded in specified time duration. Multi-channel simultaneous playback and channel switch are supported.

Steps:

1. Enter playback interface.
   Menu>Playback
2. Check checkbox of channel(s) in the channel list.
3. Double-click to select a date on the calendar to play back the record file.
   Note: If there are record files for that camera in that day, in the calendar, the icon for that day is

displayed as 9. Otherwise it is displayed as 9.

Figure 6.5 Playback Calendar

In the Playback interface:

The toolbar in the bottom part of Playback interface can be used to control playing process.

Figure 6.6 Interface of Playback by Time

Figure 6.7 Toolbar of Playback by Time

Table 6.2 Detailed Explanation of Playback-by-time Toolbar

Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search		Pause/ Play Reverse
	Stop		30s backward		30s forward
	Slow forward		Fast forward		Previous day
	Next day		Scaling up/down time bar		Process bar
	Full Screen		Exit		Video type bar
Normal	Normal playback				

Notes:

- Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.
- About video type bar: represents normal recording (manual or schedule); represents event recording; represents smart search recording.

6.1.3 Playing Back by Event Search

Purpose:

Play back record files on one or several channels searched out by restricting event type (motion detection or alarm input). Channel switch is supported.

Note: Playback by alarm input search is supported by DS-7224/7232-SH, DS-7300-SH and DS-8100-SH models only.

Steps:

1. Enter the playback interface.
   Menu>Playback
2. Click Normal and select Event to enter the Event Playback interface.
3. Select **Alarm Input** or **Motion** as the event type, and specify the start time and end time for search.

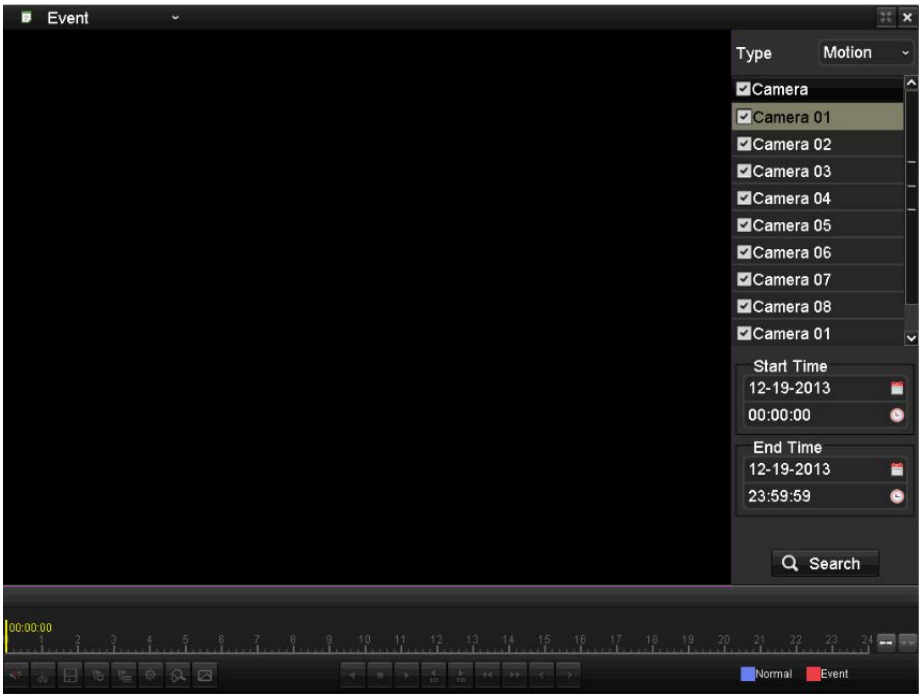


Figure 6.8 Video Search by Motion Detection

Click **Search**, and the record files matching the search conditions will be displayed on a list.

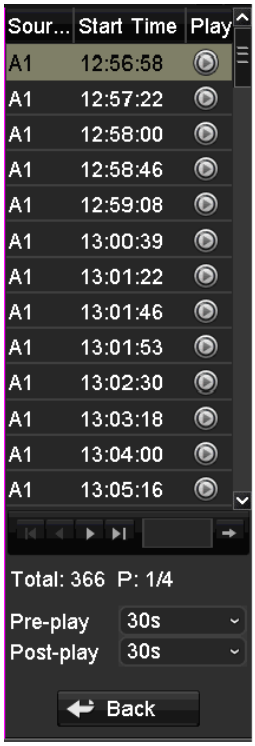


Figure 6.9 Result of Video Search by Alarm Input

4. Select an click button to play back the record files.

   You can click **Back** to return to the search interface.

   Note: Pre-play and post-play can be configured for the playback of event triggered record files.

   Pre-play: The time you set to play back before the event. For example, when an alarm triggered the

recording at 10:00, if you set the pre-play time as 5 seconds, the video plays back from 9:59:55.

Post-play: The time you set to play back after the event. For example, when an alarm triggered the recording ends at 11:00, if you set the post-play time as 5 seconds, the video plays back till 11:00:05.

If there is only one channel is triggered by an alarm input, clicking button takes you to Full-screen Playback interface of this channel.

If several channels are triggered, clicking button takes you to the interface. Check checkbox to select one channel for playback or select multiple channels for synchronous playback.

Note: The max. number of channels for synchronous playback supported varies to different models.

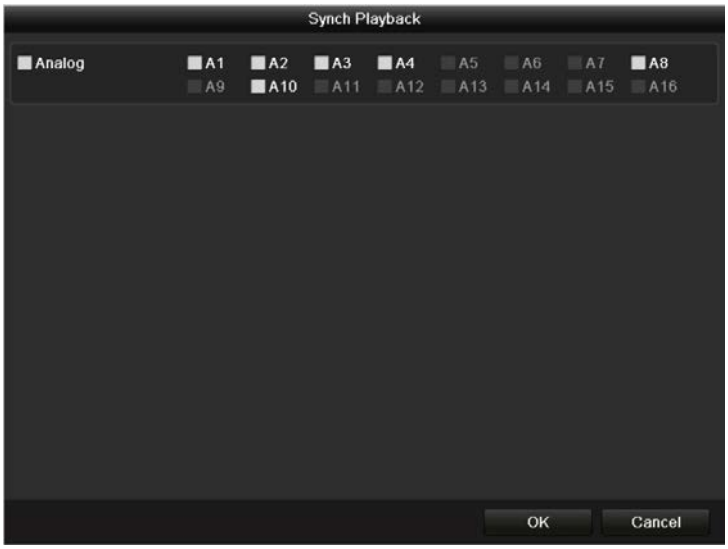


Figure 6.10 Select Channels for Synchronous Playback

5. Event playback interface.

The toolbar in the bottom part of Playback interface can be used to control playing process.

Figure 6.11 Interface of Playback by Event

Figure 6.12 Toolbar of Playback by Event

Table 6.3 Detailed Explanation of Playback-by-event Interface

Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search		Pause/ Play Reverse
	Stop		30s backward		30s forward
	Slow forward		Fast forward		Previous event
	Next event		Scaling up/down time bar		Process bar
	Full Screen		Exit		Video type bar
Event	Event playback				

6.1.4 Playing Back by Tag

Purpose:

Video tag allows you to record related information like people and location of a certain time point during playback. You are also allowed to use video tag(s) to search for record files and position time point.

Before playing back by tag:

1. Enter Playback interface.

Figure 6.13 Interface of Playback by Time

Click button to add default tag.

Click button to add customized tag and input tag name.

Note: Max. 64 tags can be added to a single video file.

2. Tag management.

   Click button to check, edit and delete tag(s).

Figure 6.14 Tag Management Interface

Steps:

1. Enter Playback interface.

   Menu>Playback

2. Click Normal and select Tag to enter the Tag Playback interface.

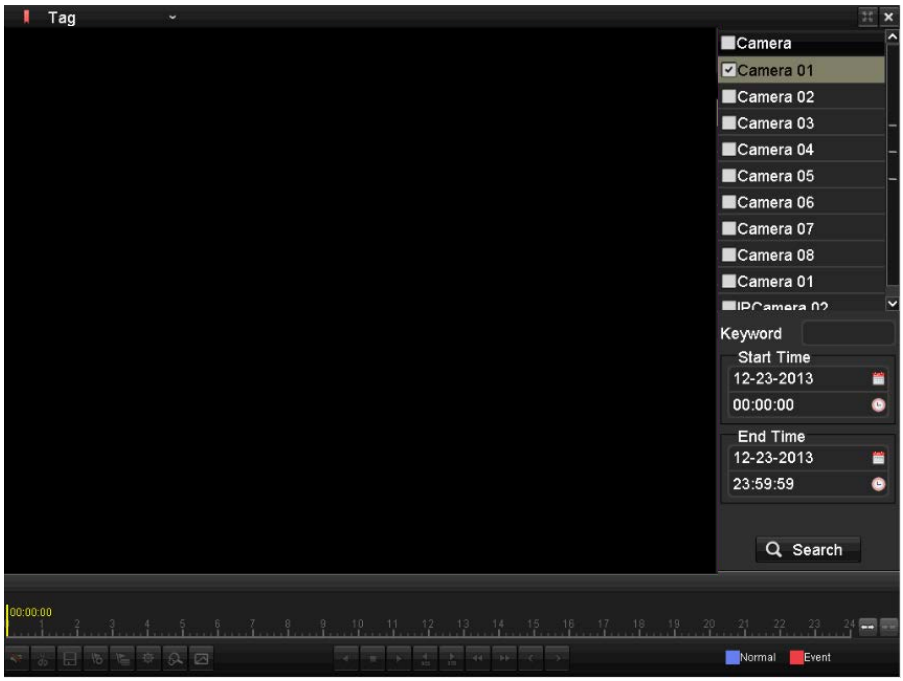


Figure 6.15 Video Search by Tag

3. Select the channels from the list, and specify the start time and end time for search.
4. Optionally, you can input the keyword of the tag name in the Keyword text field to narrow the search.
5. Click **Search**, and the tags matching the search conditions will be displayed on a list.

6. Click button to play back the file.

   You can click the **Back** button to back to the search interface.

   Pre-play and post-play time can be set according to actual needs.

   Note: Pre-play time and post-play time is added to the time point of the tag.

Figure 6.16 Interface of Playback by Tag

Figure 6.17 Toolbar of Playback by Tag

Table 6.4 Detailed Explanation of Playback-by-tag Toolbar

Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search		Pause/Play Reverse
	Stop		30s backward		30s forward
	Slow forward		Fast forward		Previous tag
	Next tag		Scaling up/down time bar		Process bar
	Full Screen		Exit		Video type bar
Tag	Tag playback				

Notes:

- Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.
- About video type bar: represents normal recording (manual or schedule); represents event recording; represents smart search recording.

6.1.5 Playing Back by Smart Search

Purpose:

The smart playback function provides an easy way to get through the less effective information. When you select the smart playback mode, the system will analyze the video with motion, mark it with green color and play it in the normal speed while the video without motion will be played in the 8-time speed.

Note: The playback by smart search is not supported for IP cameras.

Steps:

1. Enter Playback interface.
   Menu>Playback
2. Select the **Smart** in the drop-down list on the top-left side.
3. Select a date in the calendar and select a camera in the camera list.
4. Click the button to play.

Figure 6.18 Smart Playback Interface

Table 6.5 Detailed Explanation of Playback-by-smart search Toolbar

Button	Operation	Button	Operation	Button	Operation
	Stop		Pause play/ Play		Scaling up/down the time line
	Smart search result		Process bar	Smart	Video type / picture

Note: Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.

6.1.6 Playing Back by System Log

Purpose:

You can also play back record file(s) after searching system logs.

Steps:

1. Enter Log Information interface.

   Menu>Maintenance>Log Information>Log Search

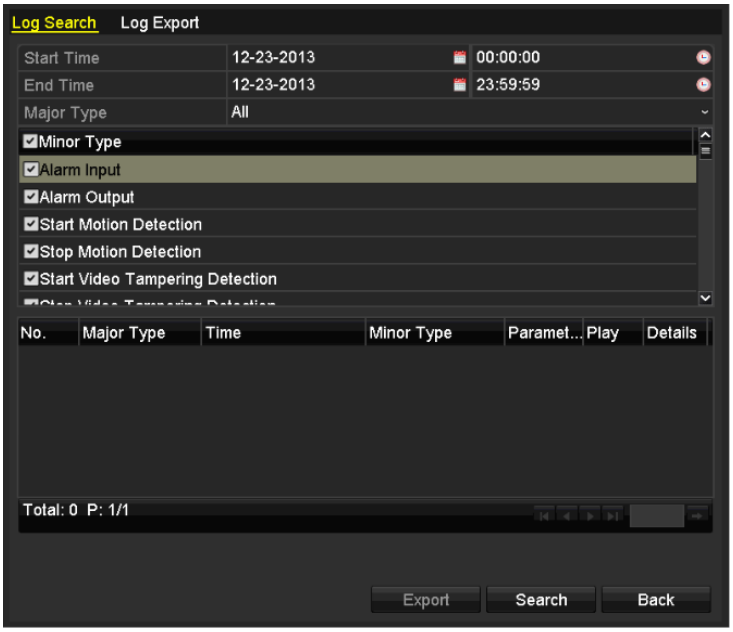


Figure 6.19 Log Search Interface

2. Specify the start time and end time for search.
3. Select the major type of the log from the drop-down list. 4 major types are selectable: Alarm, Exception, Operation and Information.
4. Check the checkboxes to select the minor type of the log for search.
5. Click **Search**, and the logs matching the search conditions will be displayed on a list.

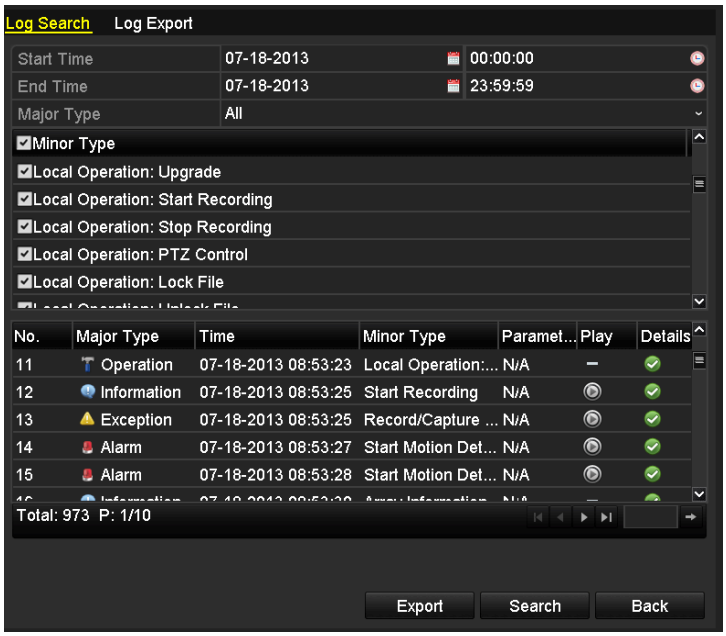


Figure 6.20 Result of System Log Search

6. Select a log with record file and click button to enter Playback interface.

Note: If there is no record file at the time point of the log, the message box "No result found" will pop up.

Figure 6.21 Interface of Playback by Log

6.1.7 Playing Back External Files

Purpose:

The record files stored in the external storage devices, e.g., USB flash drives, USB HDDs, can be searched and played back.

Before you start:

Insert the external device(s) with available record files into the device.

Steps:

1. Enter the Playback interface.

   Menu > Playback

2. Click Normal and select External File to enter the External File Playback interface.
   The files stored in the extrenal device are listed in the right-side list.
   You can click the **Refresh** button to refresh the file list.
3. Select a record file and click to play it.

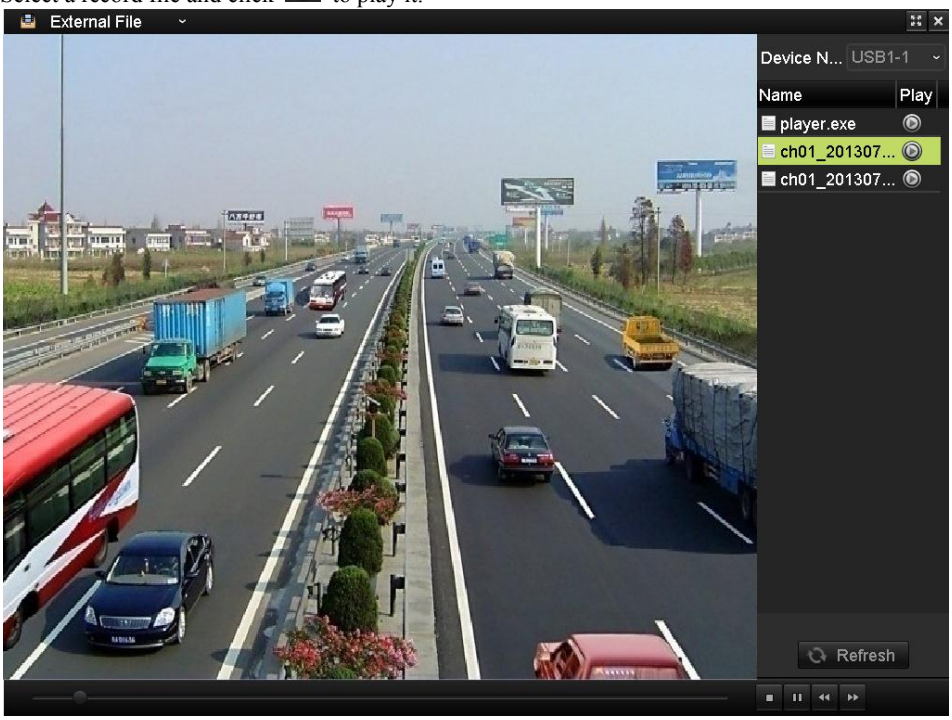


Figure 6.22 Interface of External File Playback

6.2 Auxiliary Functions of Playback

6.2.1 Playing Back Frame by Frame

Purpose:

Play video files frame by frame, in order to check image details of the video when abnormal events happen.

Steps:

- **Using a Mouse:**
  Go to Playback interface. If you choose playback of the record file: click button and until the speed changes to Single frame and one click on the playback screen represents playback of one frame. If you choose adverse playback of the record file: click button and until the speed changes to Single frame and one click on the playback screen represents adverse playback of one frame. It is also feasible to use button in toolbar.
- **Using the Front Panel :**
  For DS-7300 –SH and DS-8100-SH series DVR, you can use the front panel buttons to perform the playback.
  Rotate and hold the outer ring on Jog Shuttle counterclockwise or click the button to set the speed to *Single* frame. One click on button, one click on the playback screen or **Enter** button on the front panel represents playback or reverse playback of one frame.

6.2.2 Smart Search

Purpose:

In order to locate motion detection event easily and accurately in the playback progress bar, you are allowed to analyze a certain area (scene) dynamically, and to get all of the related motion detection events that occurred in this area.

Note: The playback by smart search is not supported for IP cameras.

Steps:

1. Enter the Normal Playback interface, and start the playback. For details, see *Chapter 6.1.2*.
   Note: The smart search function is available for single-channel playback only.

Figure 6.23 Playback Interface

2. Click the icon on the playback control toolbar to enter Smart Search mode. The smart search toolbar appears at the bottom of the screen.

Figure 6.24 Smart Search Toolbar

3. Click-and-drag the mouse to draw area(s) for smart search.

   You can click the icon to set the full screen as target searching area.

   Note: Multi-area and full-screen searching modes are supported.

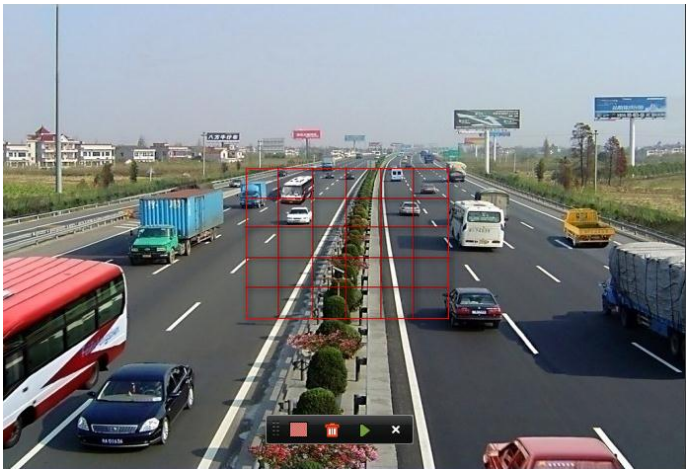


Figure 6.25 Draw Area of Smart Search

4. Click the icon to start the smart search, and the motion events occurred in the defined area will be marked as on the time bar.

Figure 6.26 Smart Search Result

6.2.3 Digital Zoom

Steps:

1. Enter the Playback interface and start the playback. For details, see *Chapter 6.1*.
2. Click the icon on the playback control toolbar to enter Digital Zoom mode.
3. Click-and-drag the mouse to draw a red rectangle on the window in the lower-right corner of the interface. And then the image within it will be enlarged up to 16 times.
4. Right-click to exit the Digital Zoom mode.

Figure 6.27 Draw Area for Digital Zoom

6.2.4 Reverse Playback of Multi-channel

Purpose:

You can play back record files of multi-channel reversely.

Steps:

1. Enter the Playback interface.

   Menu>Playback

2. Check checkbox to select the channel(s) and double-click to select a date on the calendar.

   Note: If more than one channel is optional, the synchronous playback will be activated.

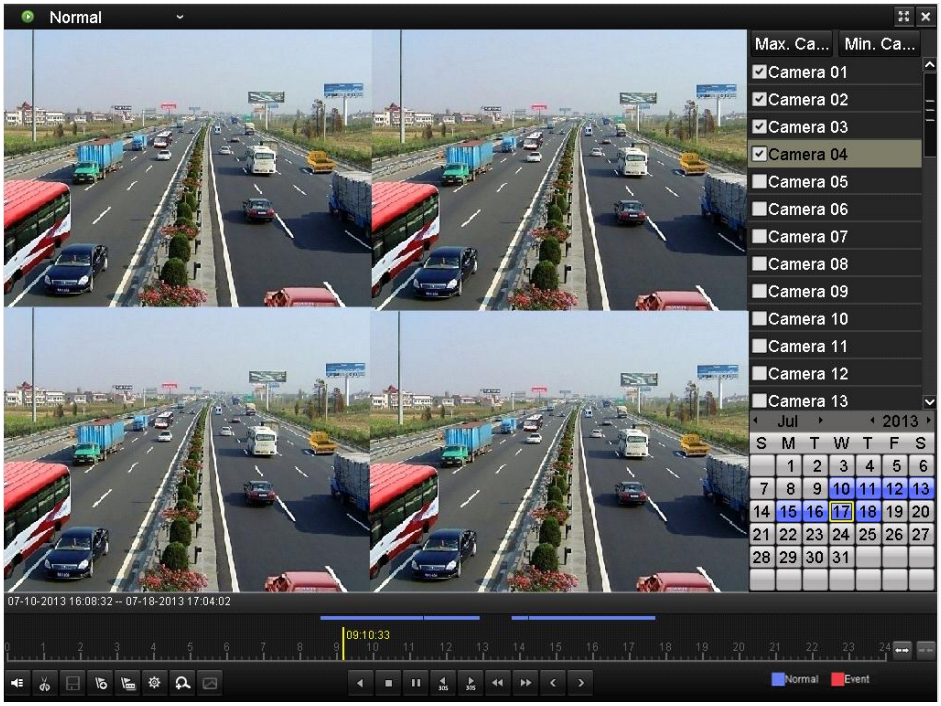


Figure 6.28 4-ch Synchronous Playback Interface

3. Click the icon on the playback control toolbar, and the record files will be played back reversely.

C H A P T E R 7

Backup

7.1 Backing up Record Files

Before you start:

Please insert the backup device(s) into the device.

7.1.1 Quick Export

Purpose:

Export record files to backup device(s) quickly.

Steps:

1. Enter Video Export interface.

   Menu>Export>Normal

Figure 7.1 Quick Export Interface

2. Choose the channel(s) you want to back up and click **Quick Export** button.

   Note: The time duration of record files on a specified channel cannot exceed 24 hours. Otherwise, the message box “Max. 24 hours are allowed for quick export.” will pop up.

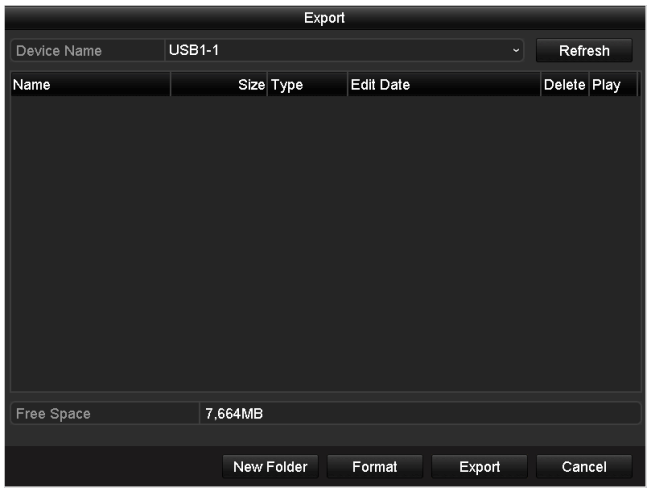


Figure 7.2 Quick Export using USB1-1

3. In the Export interface, choose backup device and click **Export** button to start exporting.

   Note: Here we use USB Flash Drive and please refer to the next section Normal Backup for more backup devices supported by the device.

4. Stay in the Exporting interface until all record files are exported to the USB flash drive.

5. Check backup result.

   Choose the record file in Export interface and click button to check it.

   Note: The Player player.exe will be exported automatically during record file export.

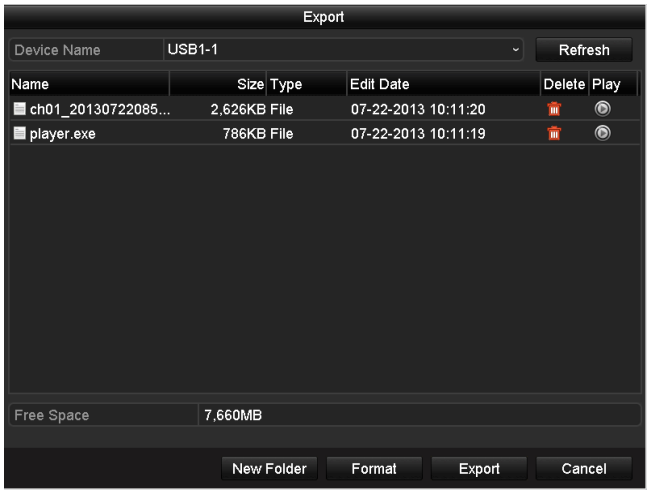


Figure 7.3 Checkup of Quick Export Result Using USB1-1

7.1.2 Backing up by Normal Video Search

Purpose:

The record files can be backup to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD.

Note: The eSATA writer is supported by DS-7300-SH and DS-8100-SH models only.

Backup using USB flash drives, USB HDDs, USB writer, SATA writer or eSATA HDD.

Steps:

1. Enter Export interface.

   Menu>Export>Normal

Figure 7.4 Normal Video Search for Backup

2. Set search conditions and click **Search** button to enter the search result interface.
3. Select record files you want to back up.

   Click button to play the record file if you want to check it.

   Check the checkbox before the record files you want to back up.

   Note: The size of the currently selected files is displayed in the lower-left corner of the window.

Figure 7.5 Result of Normal Video Search for Backup

4. Export the record files.

Click **Export** button and start backup.

Note: If the inserted device is not recognized:

- Click the **Refresh** button.
- Reconnect device.
- Check for compatibility from vendor.

You can also format USB flash drives or USB HDDs via the device. USB writer, SATA writer and eSATA HDD cannot be formatted.

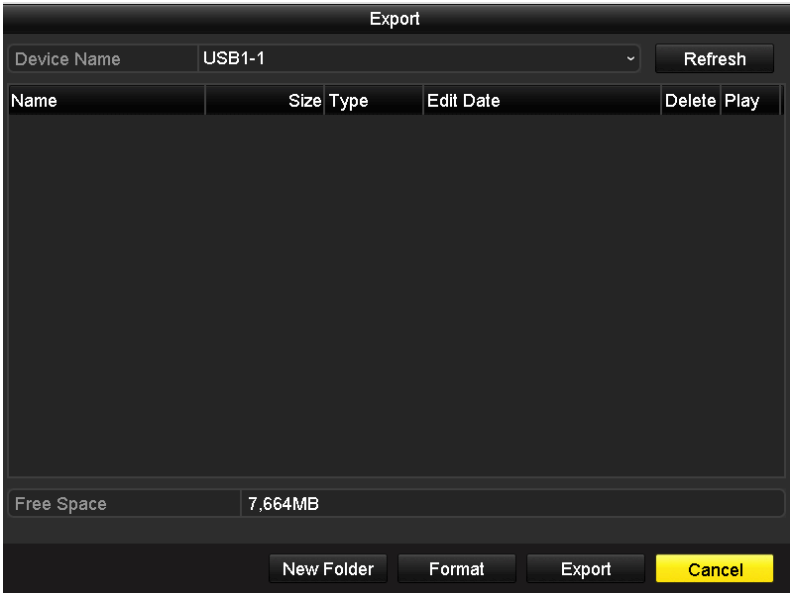


Figure 7.6 Export by Normal Video Search using USB Flash Drive

Stay in the Exporting interface until all record files are exported with pop-up message box "Export finished".

Figure 7.7 Export Finished

5. Check backup result.

Choose the record file in Export interface and click button to check it.

Note: The Player player.exe will be exported automatically during record file export.

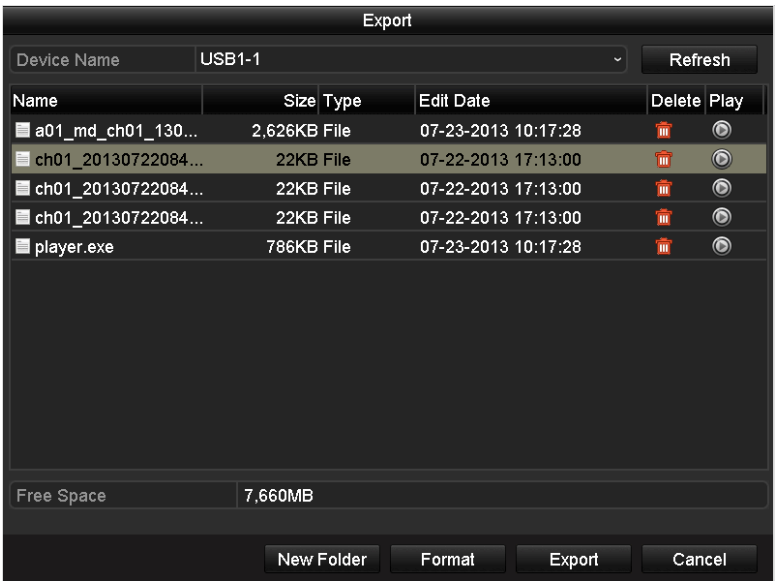


Figure 7.8 Checkup of Export Result using USB Flash Drive

7.1.3 Backing up by Event Search

Purpose:

Back up event-related record files using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD. Quick Backup and Normal Backup are supported.

Notes:

1. Backup by alarm input search is supported by DS-7224/7232-SH, DS-7300-SH, DS-8100-SH and HDVR models only.
2. The eSATA writer is supported by DS-7300-SH and DS-8100-SH models only.

Steps:

1. Enter Export interface.
   Menu>Export>Event
2. Select **Motion** or **Alarm Input** as the event type.
   Note: The following steps have introduced the backup by motion detection triggered record files. Perform the same operation for the backup by alarm triggered record files.
3. Set the start time and end time of the record files.
4. Select the camera (s) for searching.

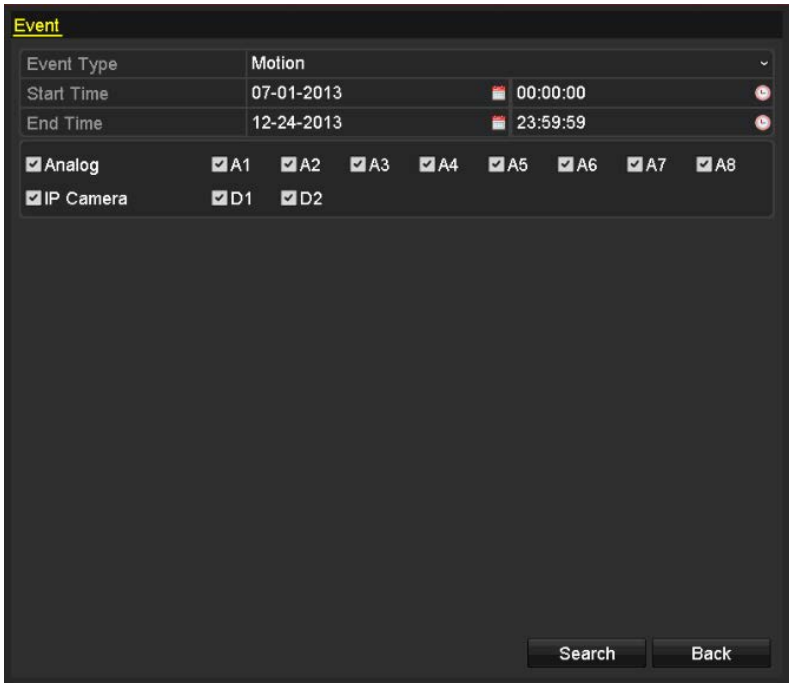


Figure 7.9 Event Search for Backup

5. Click **Search** button to enter the Search Result interface.

Figure 7.10 Result of Event Search

6. Select record files to export. You can use the following two ways to enter the Export interface.
   - Select motion detection event (s) from the list and click **Quick Export** button to enter the Export interface, as shown in Figure 7.14.
   - (1) Click the **Details** button to enter the interface with detailed information of the record file, e.g., start time, end time, file size, etc.

     Note: The size of the currently selected files is displayed in the lower-left corner of the window.

     (2) Select record file (s) from the list and click **Export** button to enter the Export interface, as

shown in Figure 7.14.

Figure 7.11 Event Details Interface

7. Export the selected record files.

   Click the **Export** button and start backing up.

   Note: If the inserted USB device is not recognized:

   - Click the Refresh button.
   - Reconnect device.
   - Check for compatibility from vendor.

   You can also format USB flash drive or USB HDDs via the device.

Figure 7.12 Export by Event Using USB Flash Drive

Stay in the Exporting interface until all record files are exported with pop-up message “Export finished”.

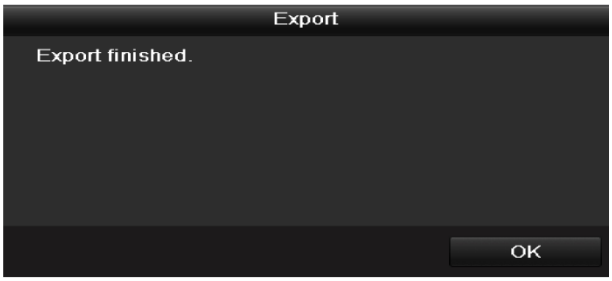


Figure 7.13 Export Finished

8. Check backup result.

   Choose the record file in Export interface and click button to check it.

   Note: The Player player.exe will be exported automatically during record file export.

Figure 7.14 Checkup of Event Export Result Using USB Flash Drive

7.1.4 Backing up Video Clips

Purpose:

You may also select video clips to export directly during Playback, using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD.

Note: The eSATA writer is supported by DS-7300-SH and DS-8100-SH models only.

Steps:

1. Enter Playback interface.

   Please refer to *Chapter 6*.

2. During playback, use buttons and in the playback toolbar to start or stop clipping record file(s).

Figure 7.15 Interface of Playback by Time

3. Click the icon to enter the Clips Export interface.
   Note: A maximum of 30 clips can be selected for each channel.
4. Click the button **Export** to export the selected video clips to the backup device.

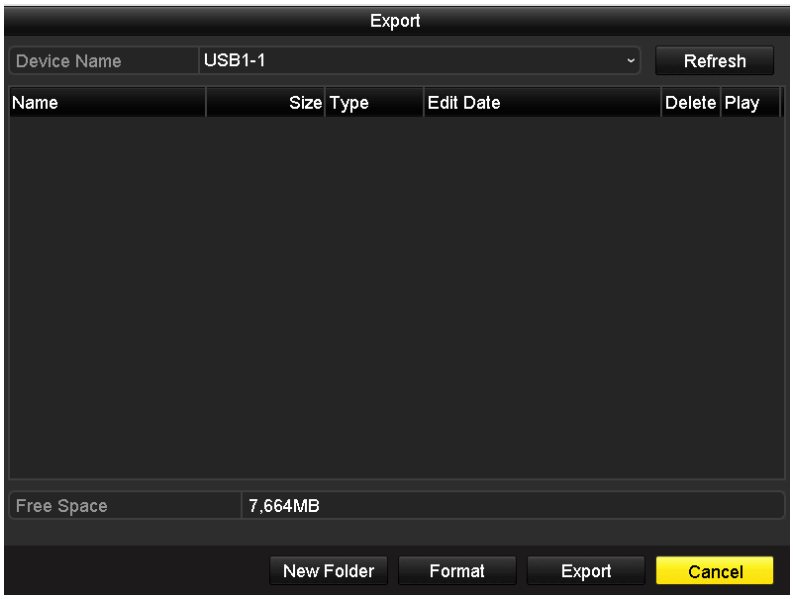


Figure 7.16 Export Video Clips Using USB Flash Drive

Stay in the Exporting interface until all record files are exported with pop-up message “Export finished”.

Figure 7.17 Export Finished

5. After the backup is complete, the exported record files will be displayed in a list on the Export interface.

   Note: The Player program player.exe will be exported automatically during record file export.

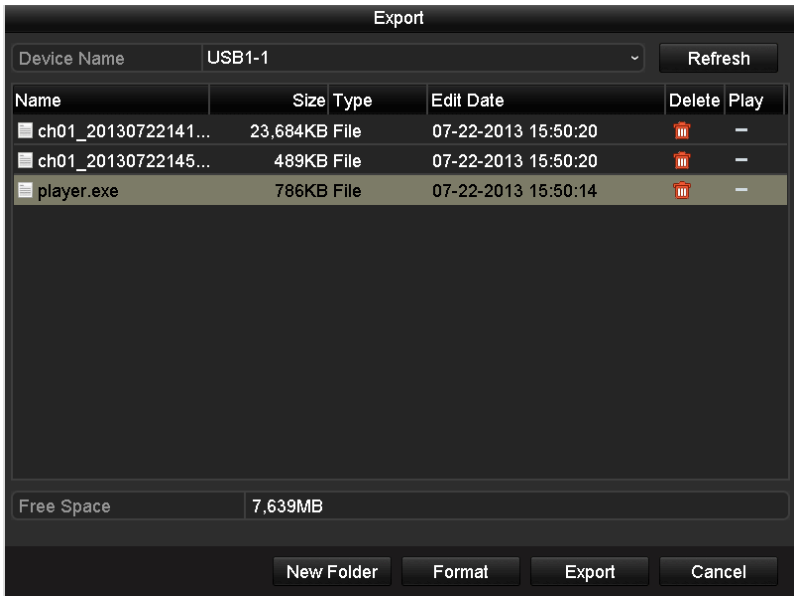


Figure 7.18 Checkup of Video Clips Export Result Using USB Flash Drive

7.2 Managing Backup Devices

Management of USB flash drive, USB HDD and eSATA HDD.

Note: The eSATA HDD is supported by DS-7300-SH and DS-8100-SH models only.

Steps:

1. Enter the Export interface of backup device. For details, see *Chapter 7.1-7.2*.

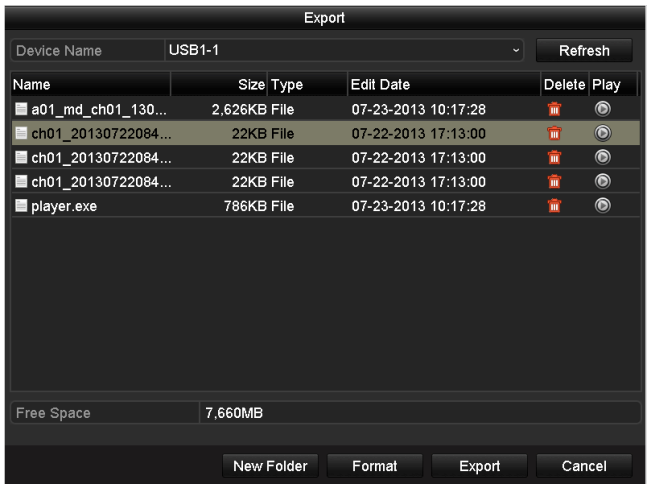


Figure 7.19 Management of USB Flash Drives, USB HDDs and eSATA HDDs

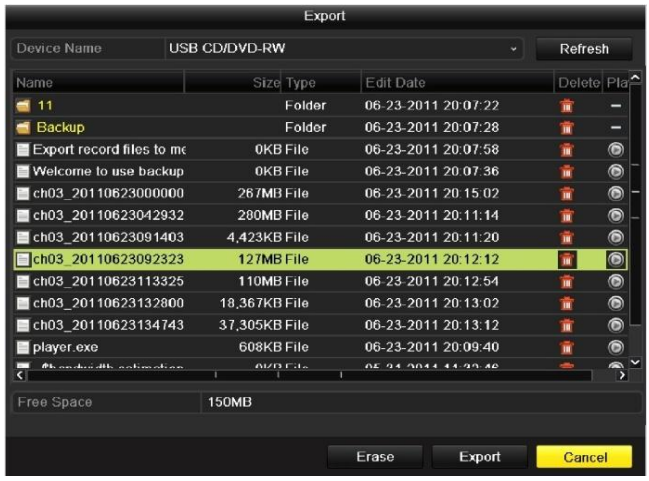


Figure 7.20 Management of USB Writers and DVD-R/W

2. Select a record file/folder/picture in the backup device, click the icon , and you can delete it.
   Select a record file/picture, click the icon , and then you can play and view the video/picture.
   For USB Flash Drives, USB HDDs and eSATA HDDs:
   Click the button **New Folder**, and you can create a new folder in the backup device.
   Click the button **Format**, and you can format the backup device. Two kinds of file system can be configurable, including FAT32 and NTFS.
   For USB Writers and DVD-R/W:
   Click the button **Erase**, and you can erase the files from a re-writable CD/DVD.
   Note: If the inserted device is not recognized, you can perform the following steps:

- Click the button **Refresh**.
- Reconnect device.
- Check for compatibility from vendor.

C H A P T E R 8

Alarm Settings

8.1 Setting Motion Detection

Steps:

1. Enter Motion Detection interface and choose a camera you want to set motion detection.
   Menu> Camera> Motion

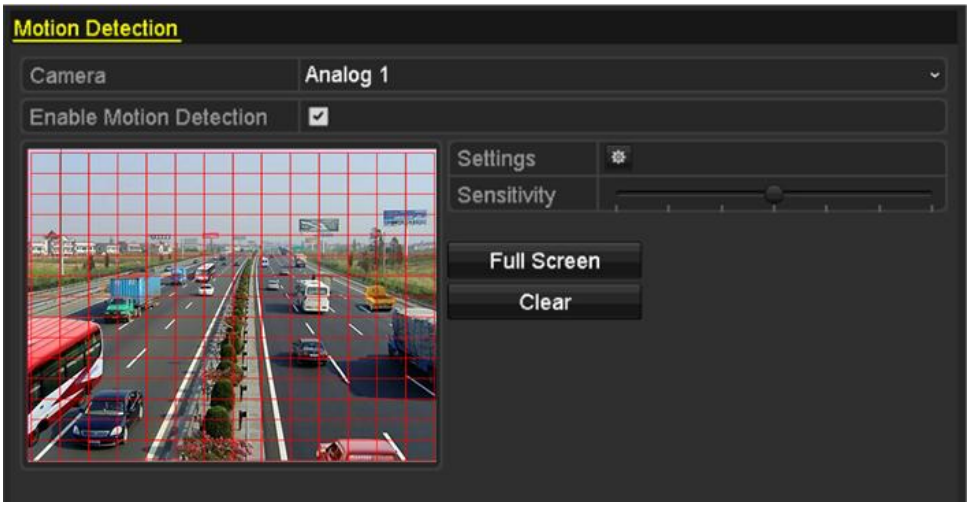


Figure 8.1 Motion Detection Setup Interface

2. Set motion detection area and sensitivity.
   1) Check the checkbox of **Enable Motion Detection** to enable motion detection, use the mouse to draw detection area(s) and drag the sensitivity bar to set sensitivity. Please refer to *Chapter 5.3 Configuring Motion Detection Record*.
      Note: By default, the motion detection is enabled and configured in full screen.
   2) Click the icon of **Settings** to set alarm response actions.

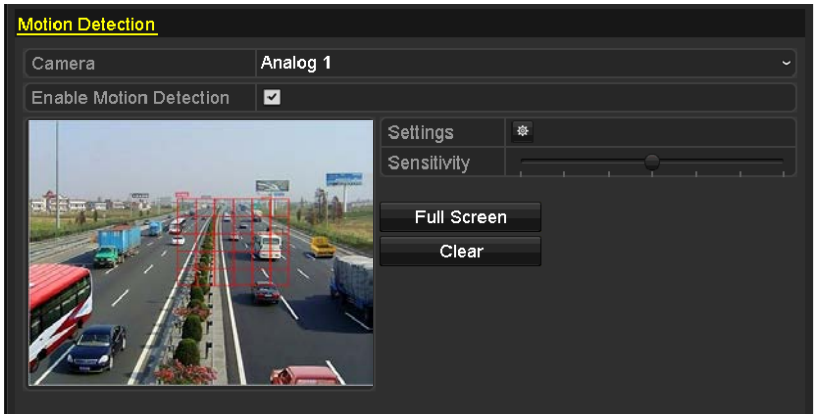


Figure 8.2 Set Detection Area and Sensitivity

3. Click **Trigger Channel** tab and select one or more channels which will start to record or become full-screen monitoring when motion alarm is triggered.

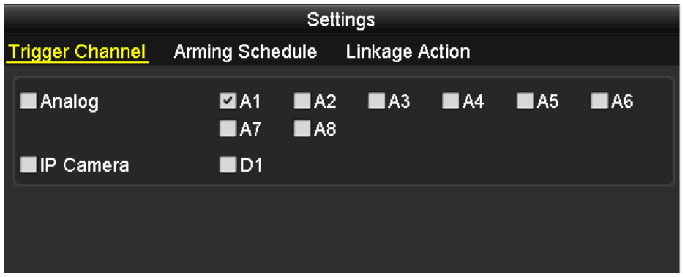


Figure 8.3 Set Trigger Camera of Motion Detection

4. Set up arming schedule of the channel.
   1) Select **Arming Schedule** tab to set the channel's arming schedule.
   2) Choose one day of a week and up to eight time periods can be set within each day.
   3) Click **Apply** to save the arming settings of the selected day.
   4) Repeat the above steps to set up arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.

   Note: Time periods shall not be repeated or overlapped.

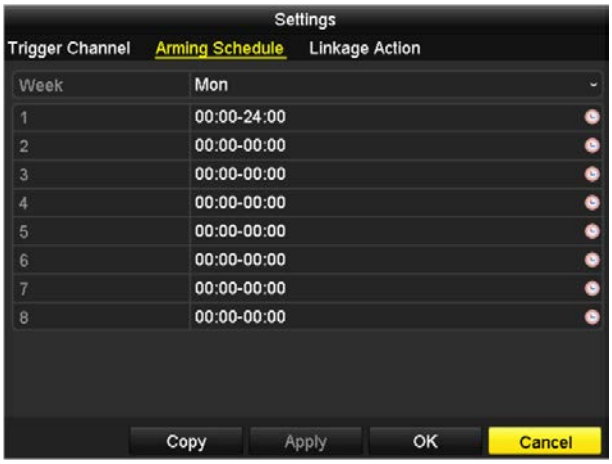


Figure 8.4 Set Arming Schedule of Motion Detection

5. Click **the Linkage Action** tab to set up alarm response actions of motion alarm (please refer to *Chapter 8.6*).

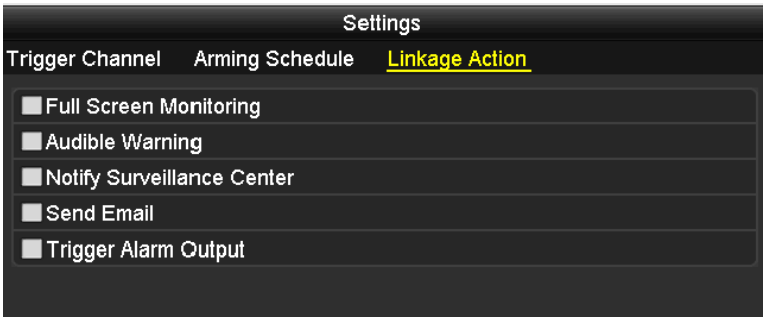


Figure 8.5 Set Alarm Response Actions of Motion Detection

Note: The Trigger Alarm Output option is available for DS-7224/7232-SH, DS-7300-SH, DS-8100-SH and HDVR models only.

6. Click **OK** to complete the motion detection settings of the channel.

7. If you want to set up motion detection for another channel (s), repeat the above steps or copy the above settings to the channel (s).

   Note: You are not allowed to copy the "Trigger Channel" and "Linkage Action" settings.

Figure 8.6 Copy Settings of Motion Detection

8.2 Setting Sensor Alarms

Note: This section is available for DS-7224/7232-SH, DS-7300-SH, DS-8100-SH and HDVR models only.

Purpose:

You can set handling method of an external sensor alarm.

Steps:

1. Enter Alarm Settings interface and select an alarm input.

   Menu> Configuration> Alarm

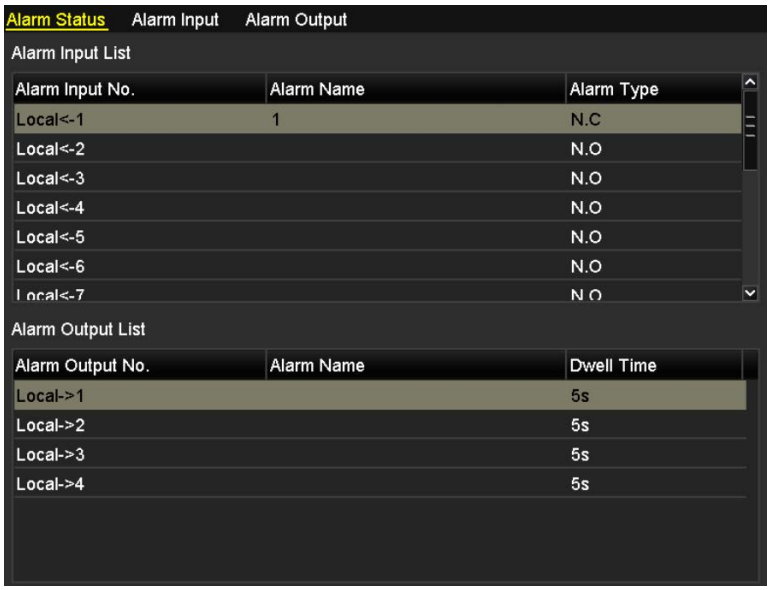


Figure 8.7 Alarm Status Interface

2. Select **Alarm Input** tab to enter Alarm Input Settings interface and set the handling method of the selected alarm input.

   Check ☑ checkbox to enable the alarm input and click ⚙ to set up its alarm response actions.

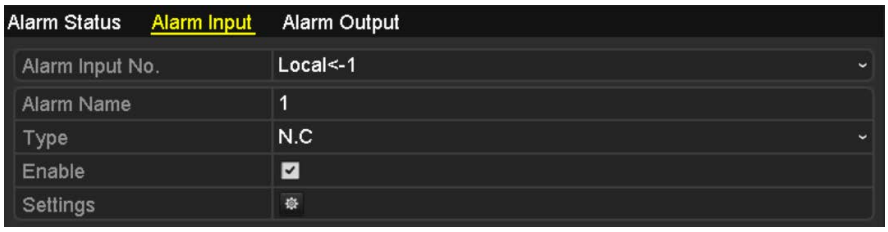


Figure 8.8 Alarm Input Settings Interface

3. Select **Trigger Channel** tab and select one or more channels which will start to record or become full-screen monitoring when an external alarm is input. Click **Apply** to save the settings.
4. Select **Arming Schedule** tab to set the channel's arming schedule.

   Choose one day of a week and up to eight time periods can be set within each day. Set up arming schedule of other days of a week. You can also use **Copy** to copy an arming schedule to other days. Click **Apply** to save the settings.

   Note: Time periods shall not be repeated or overlapped.
5. Select the **Linkage Action** tab to set alarm response actions of the alarm input (please refer to *Chapter*

8.6).

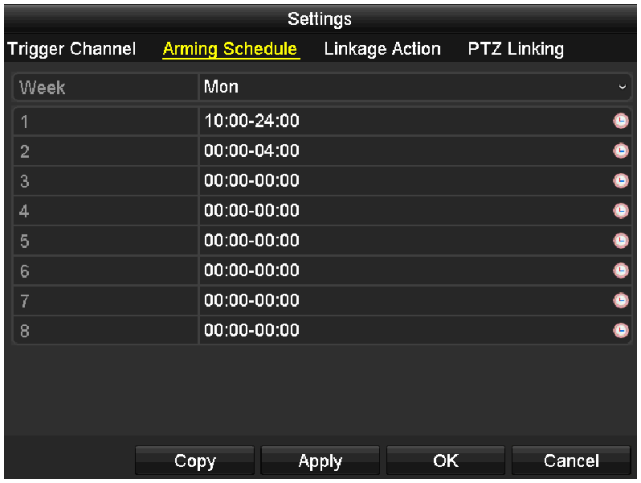


Figure 8.9 Set Arming Schedule of Alarm Input

6. If necessary, select **PTZ Linking** tab and set PTZ linkage of the alarm input.

   Set PTZ linking parameters and click **Apply** to save the settings. Click **OK** to complete the settings of the alarm input.

   Note: Please check whether the PTZ or speed dome supports PTZ linkage.

   One alarm input can trigger presets, patrol or pattern of more than one channel. But presets, patrols and patterns are exclusive.

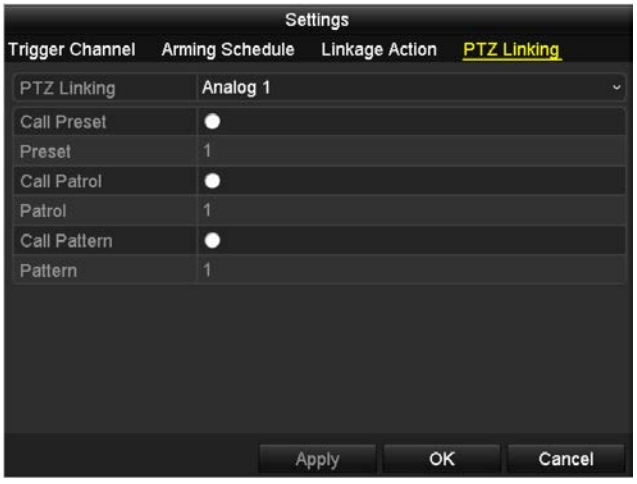


Figure 8.10 Set PTZ Linking of Alarm Input

7. If you want to set the alarm response actions of another alarm input, repeat the above steps or just copy the above settings to it by clicking **Copy** in Alarm Input Settings interface.

Figure 8.11 Copy Settings of Alarm Input

8.3 Detecting Video Loss

Purpose:

Detect video loss of a channel and take alarm response action(s).

Steps:

1. Enter Video Loss interface of Camera Management.

   Menu> Camera> Video Loss

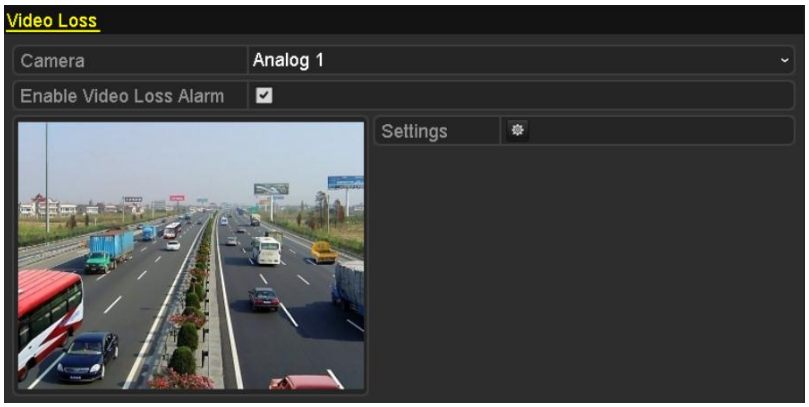


Figure 8.12 Video Loss Setup Interface

2. Select a channel you want to detect.
3. Check the checkbox of **Enable Video Loss Alarm**.
4. Click the icon of **Settings** to enter the Settings interface.
5. Set the arming schedule and alarm response actions. Please refer to **Step4** and **Step5** of *Chapter 8.1 Setting up Motion Detection Alarm.*

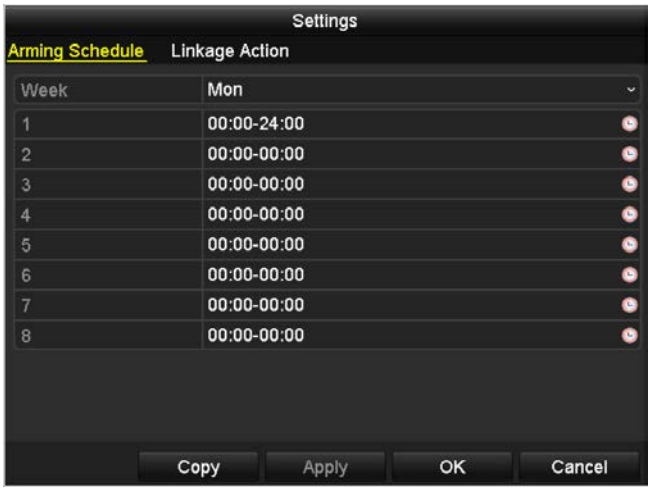


Figure 8.13 Set Arming Schedule of Video Loss

6. Click **Apply** to save the video loss alarm settings.

8.4 Detecting Video Tampering

Purpose:

Trigger alarm when the lens is covered and take alarm response action(s).

Steps:

1. Enter Video Tampering interface of Camera Management.

   Menu> Camera> Tamper-proof

Figure 8.14 Tamper-proof Setup Interface

2. Select a channel you want to detect video tampering.
3. Check the checkbox of **Enable Tamper-proof**.

Note: By default, the tamper-proof detection is configured in full screen.

4. Move the sensitivity bar and choose a proper sensitivity level.
5. Click the icon of **Settings** to enter the Handling interface.
6. Set the arming schedule and alarm response actions. Please refer to **Step4** and **Step5** of *Chapter 8.1 Setting up Motion Detection Alarm.*
7. If you want to set video loss handling method for another channel, repeat above steps or click **Copy** to copy the above settings to it.

Figure 8.15 Copy Settings of Video Tampering

8.5 Handling Exceptions

Purpose:

Exception settings refer to the handling method of various exceptions, e.g.,

- **HDD Full:** The HDD is full.
- **HDD Error:** Writing HDD error, unformatted HDD, etc.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflicted:** Duplicated IP address.
- **Illegal Login:** Incorrect user ID or password.
- **Input / Output Video Standard Mismatch:** I/O video standards do not match.
- **Record Exception:** No space for saving recorded file.

Note: Input / Output Video Standard Mismatch and Video Signal Exception are not supported by IP cameras of HDVR series.

Steps:

1. Enter Exceptions interface and handle various exceptions.

   Menu> Configuration> Exceptions

2. Check the checkbox of **Enable Event Hint** to display the Event/Exception icon when the exceptional event occurs. And click the icon to select the detailed event hint for display.

   Note: Click the icon appears in the live view interface, and you can view the detailed information of the exceptional event. Click the button **Set**, and then you can select the detailed event hint for display.

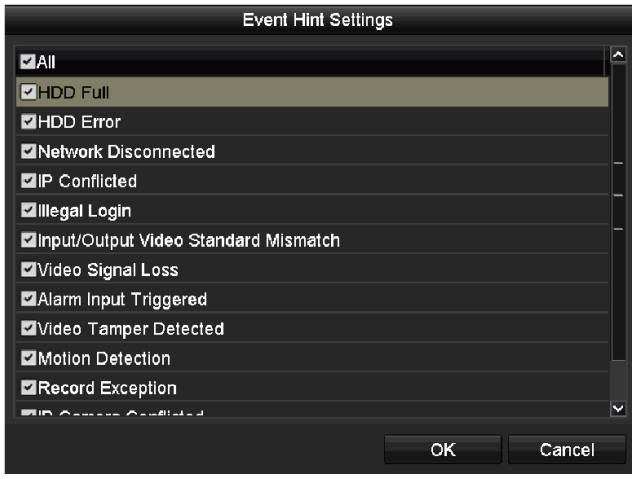


Figure 8.16 Detailed Event Hint Settings

3. Set the alarm linkage actions. For details, see *Chapter 8.6*.
4. Click **Apply** to save the settings.

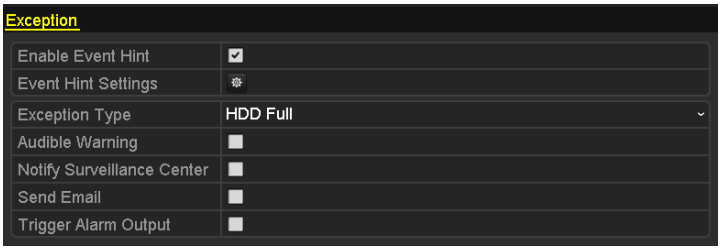


Figure 8.17 Exception Settings Interface

8.6 Setting Alarm Response Actions

Purpose:

The alarm response actions will be activated when an exception occurs, including Full Screen Monitoring, Audible Warning, Notify Surveillance Center, and Send Email.

Full Screen Monitoring

When an alarm event (motion detection/tamper-proof/video loss detection) is triggered, the local monitor (HDMI/VGA or BNC monitor) display in full screen the video image from the alarming channel configured for full screen monitoring.

If alarms are triggered simultaneously in several channels, their full-screen images will be switched at an interval of 10 seconds (default dwell time). A different dwell time can be set by going to Menu> Configuration>Live View>Full Screen Monitoring Dwell Time.

Auto-switch will terminate once the alarm stops and you will be taken back to the Live View interface.

Note: For motion detection alarm, you must select the channel(s) you want to make full screen monitoring (Menu>Camera>Motion>Handling>Trigger Channel).

Audible Warning

Trigger an audible *beep* when an alarm is detected.

Notify Surveillance Center

Sends an exception or alarm signal to remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.

Note: The alarm signal will be transmitted automatically at detection mode when remote alarm host is configured. Please refer to *Chapter 9.2.6* for details of alarm host configuration.

Send Email

Send an email with alarm information to a user or users when an alarm event is detected.

Please refer to *Chapter 9.2.10* for details of Email configuration.

Trigger Alarm Output

Note: This feature is available for DS-7224-7232-SH, DS-7300-SH and DS-8100-SH models only.

Trigger an alarm output when an alarm is triggered.

Steps:

1. Enter Alarm Output interface.

   Menu> Configuration> Alarm> Alarm Output

   Select an alarm output and set alarm name and dwell time.

   Note: If “Manually Clear” is selected in the dropdown list of Dwell Time, you can clear it only by going to Menu> Manual> Alarm and clicking **Clear All**.

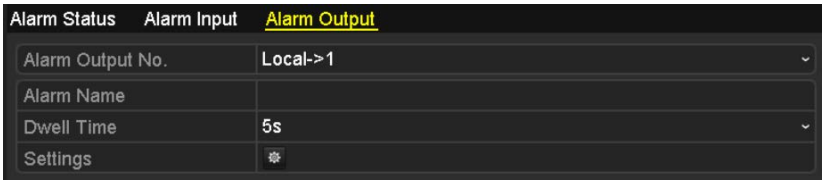


Figure 8.18 Alarm Output Settings Interface

2. Set arming schedule of the alarm output.

   Click to set the arming schedule of alarm output. Choose one day of a week and up to 8 time periods can be set within each day.

   Note: Time periods shall not be repeated or overlapped.

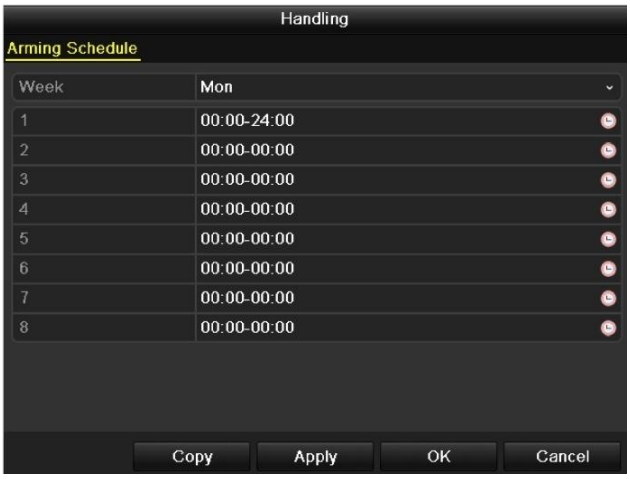


Figure 8.19 Set Arming Schedule of Alarm Output

3. Repeat the above steps to set up arming schedule of other days of a week. You can also click **Copy** to copy an arming schedule to other days. Click **OK** to complete the settings of the alarm output.
4. You can also click **Copy** in Alarm Output interface to copy the above settings to another channel.

Figure 8.20 Copy Settings of Alarm Output

8.7 Triggering or Clearing Alarm Output Manually

Note: This section is available for DS-7224/7332-SH, DS-7300-SH, DS-8100-SH and HDVR models only.

Purpose:

Sensor alarm can be triggered or cleared manually. If **Manually Clear** is selected in the dropdown list of dwell time of an alarm output, the alarm can be cleared only by clicking **Clear** button in the following interface.

Steps:

Select the alarm output you want to trigger or clear and make related operations.

Menu> Manual> Alarm

Click **Trigger / Clear** button if you want to trigger or clear an alarm output.

Click **Trigger All** button if you want to trigger all alarm outputs.

Click **Clear All** button if you want to clear all alarm output.

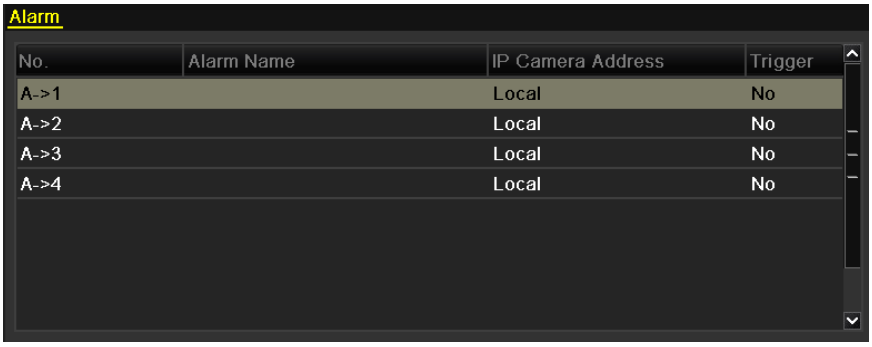


Figure 8.21 Clear or Trigger Alarm Output Manually

C H A P T E R 9

Network Settings

9.1 Configuring General Settings

Purpose:

Network settings must be properly configured before you operate device over network.

Steps (for DS-7200-SH/SV/SL and DS-7300-SH):

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **General** tab.

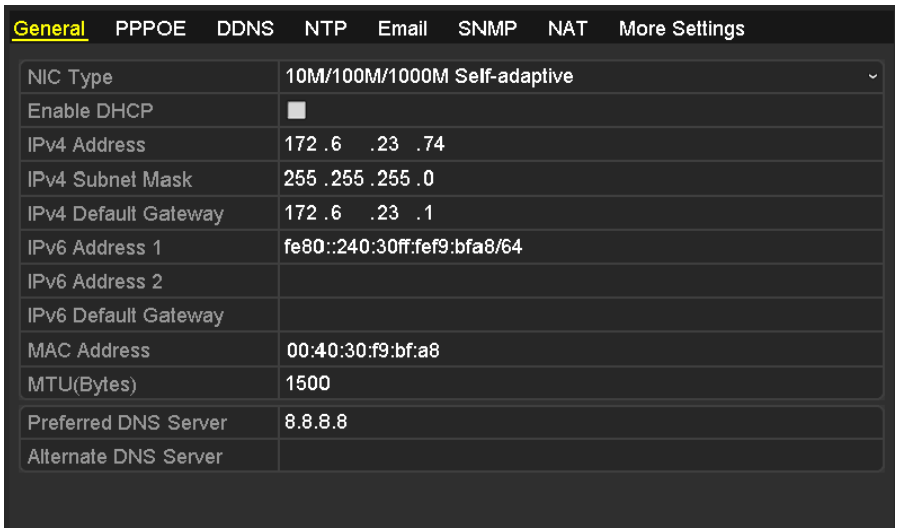


Figure 9.1 General Network Settings of DS-7200-SH/SV/SL

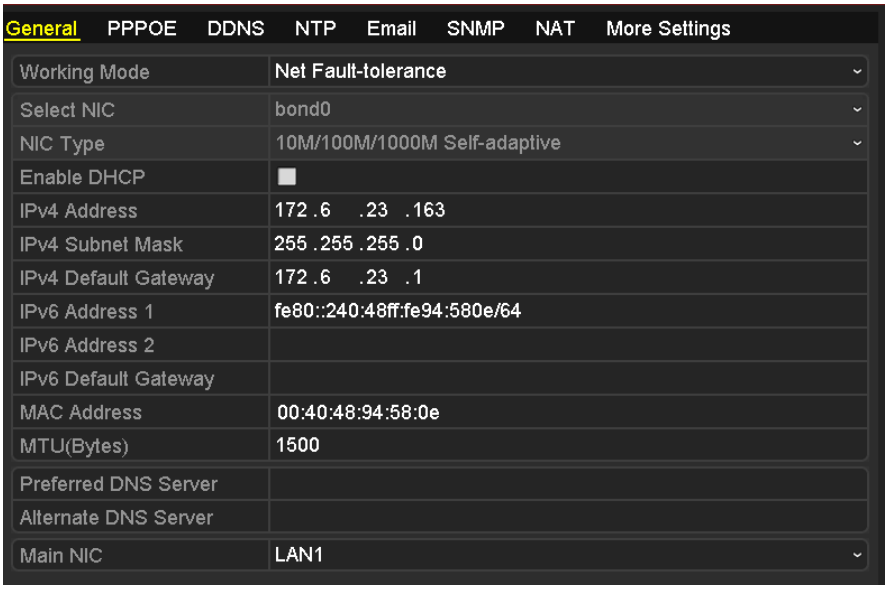


Figure 9.2 General Network Settings of DS-7300-SH

Note: The DS-7204/7208/7216-SH/SV/SL models provide one 10M/100Mbps self-adaptive network interface, the DS-7224/7232HVI-SH, DS-7224/7332HWI-SH and DS-7300HWI/HFI-SH models provide one10M/100M/1000Mbps self-adaptive network interface.

3. In the **General Settings** interface:
   You can configure the following settings: NIC Type, IPv4 Address, IPv4 Gateway, MTU and DNS

Server.

If the DHCP server is available, you can click the checkbox of **DHCP** to automatically obtain an IP address and other network settings from that server.

Notes:

- When the DHCP is failed, the default IP address (192.168.1.64) will be used.
- The valid value range of MTU is 500 ~ 1500.

4. After having configured the general settings, click the **Apply** button to save the settings.

Steps (for DS-8100-SH):

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **General** tab.

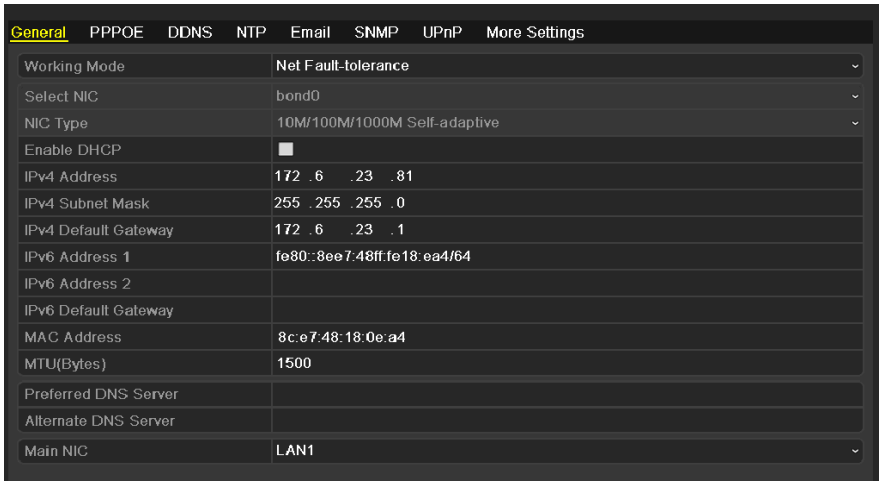


Figure 9.3 General Network Settings of DS-8100-SH

Note: The DS-8100-SH models provide two 10M/100M/1000Mbps self-adaptive network interfaces.

3. Select the working mode.
   Multi-address Mode: The parameters of the two NIC cards can be configured independently. You can select LAN1 or LAN2 in **Select NIC** field for parameter settings.
   You can select one NIC card as default route. And when the system is connecting with the extranet the data will be forwarded through the default route.

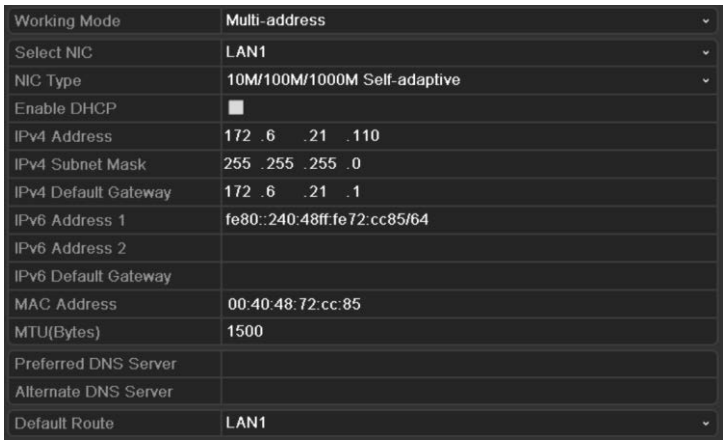


Figure 9.4 Multi-address Working Mode

Load Balance Mode: By using the same IP address, two NIC cards share the load of the total bandwidth, which enables the system to provide two Gigabit network capacity.

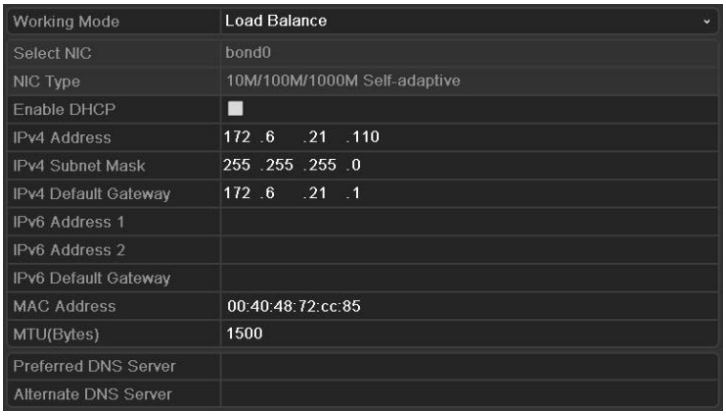


Figure 9.5 Load Balance Working Mode

Net Fault-tolerance Mode: The two NIC cards use the same IP address, and you can select the Main NIC to LAN1 or LAN2. By this way, in case of one NIC card failure, the device will automatically enable the other standby NIC card so as to ensure the normal running of the whole system.

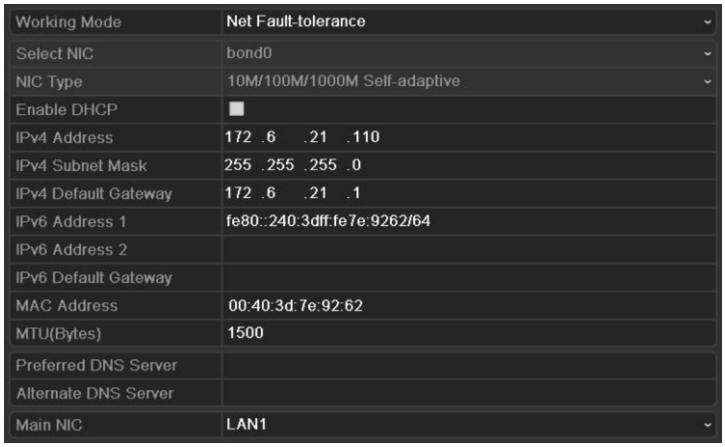


Figure 9.6 Net Fault-tolerance Working Mode

9.2 Configuring Advanced Settings

9.2.1 Configuring PPPoE Settings

Purpose:

Your device also allows access by Point-to-Point Protocol over Ethernet (PPPoE).

Steps:

1. Enter the **Network Settings** interface.
   Menu > Configuration > Network
2. Select the **PPPoE** tab to enter the PPPoE Settings interface.

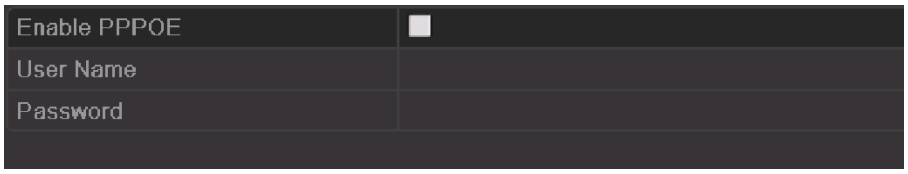


Figure 9.7 PPPoE Settings Interface

3. Check the **PPPoE** checkbox to enable this feature.
4. Enter **User Name** and **Password** for PPPoE access.

Note: The User Name and Password should be assigned by your ISP.

Figure 9.8 PPPoE Settings Interface

5. Click the **Apply** button to save and exit the interface.
6. After successful settings, the system asks you to reboot the device to enable the new settings, and the PPPoE dial-up is automatically connected after reboot.
   You can go to Menu>Maintenance>System Info>Network interface to view the status of PPPoE connection. Please refer to *Chapter 12.1Viewing System Information* for PPPoE status.

9.2.2 Configuring DDNS

Purpose:

If your device is set to use PPPoE as its default network connection, you may set Dynamic DNS (DDNS) to be used for network access.

Prior registration with your ISP is required before configuring the system to use DDNS.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **DDNS** tab to enter the DDNS Settings interface.

Figure 9.9 DDNS Settings Interface

3. Check the **DDNS** checkbox to enable this feature.
4. Select **DDNS Type**. Five different DDNS types are selectable: IPServer, DynDNS, PeanutHull, NO-IP and HiDDNS.
   - **IPServer:** Enter **Server Address** for IPServer.
     Note: The **Server Address** should be the IP address of the PC that runs IPServer.

Figure 9.10 IPServer Settings Interface

- **DynDNS:**
  1) Enter **Server Address** for DynDNS (e.g. members.dyndns.org).
  2) In the **Device Domain Name** text field, enter the domain obtained from the DynDNS website.
  3) Enter the **User Name** and **Password** registered in the DynDNS website.

Figure 9.11 DynDNS Settings Interface

- **PeanutHull:** Enter User Name and Password obtained from the PeanutHull website.

Figure 9.12 Peanut Hull Settings Interface

- **NO-IP:**

  Enter the account information in the corresponding fields. Refer to the DynDNS settings.
  1) Enter **Server Address** for NO-IP.
  2) In the **Device Domain Name** text field, enter the domain obtained from the NO-IP website (www.no-ip.com).
  3) Enter the **User Name** and **Password** registered in the NO-IP website.

Figure 9.13 NO-IP Settings Interface

- **HiDDNS:** You need to enter the **Server Address** and **Device Domain Name** for HiDDNS, and other fields are read only.
  1) Enter the **Server Address** of the HiDDNS server: www.hik-online.com.
  2) Enter the **Device Domain Name.** You can register the alias of the device domain name in the HiDDNS server first and then enter the alias to the **Device Domain Name** in the DVR; you can also enter the domain name directly on the DVR to create a new one.

     Note: If a new alias of the device domain name is defined in the DVR, it will replace the old one registered on the server.

Figure 9.14 HiDDNS Settings Interface

Register the device on the HiDDNS server.

1) Go to the HiDDNS website: *www.hik-online.com*.
2) Click Register new user to register a user account if you do not have one.
3) After registration is successful, use the account and password to log in.

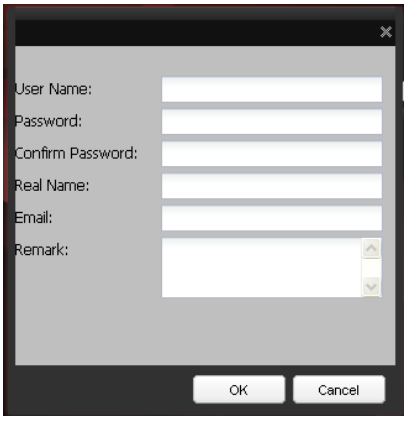


Figure 9.15 Register an Account

4) In the DDNS Management System interface, click the **Device Management** tab on the left menu bar and then click Add to register the device.

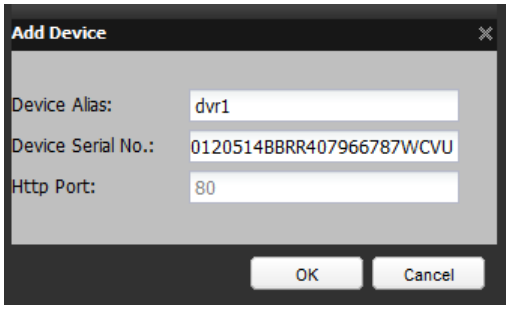


Figure 9.16 Register the Device

Note: Only lower-case English alphabet, numeric and '-' can be used in the alias of the device and the alias must be started with letters of the lower-case English alphabet.

5. Click the **Apply** button to save and exit the interface.

9.2.3 Configuring NTP Server

Purpose:

A Network Time Protocol (NTP) Server can be configured on your device to ensure the accuracy of system date/time.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **NTP** tab to enter the NTP Settings interface.

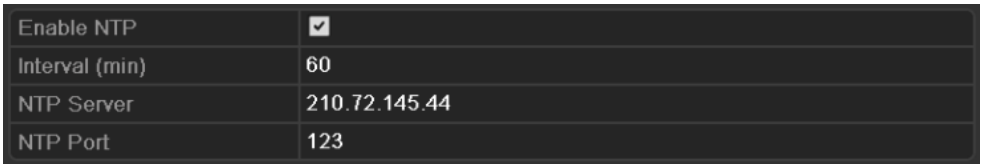


Figure 9.17 NTP Settings Interface

3. Check the **Enable NTP** checkbox to enable this feature.
4. Configure the following NTP settings:
   - **Interval:** Time interval between the two synchronizing actions with NTP server. The unit is minute.
   - **NTP Server:** IP address of NTP server.
   - **NTP Port:** Port of NTP server.
5. Click the **Apply** button to save and exit the interface.

Note: The time synchronization interval can be set from 1 to 10080min, and the default value is 60min. If the device is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the device is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

9.2.4 Configuring SNMP

Purpose:

You can use SNMP protocol to get device status and parameters related information.

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

2. Select the **SNMP** tab to enter the SNMP Settings interface.

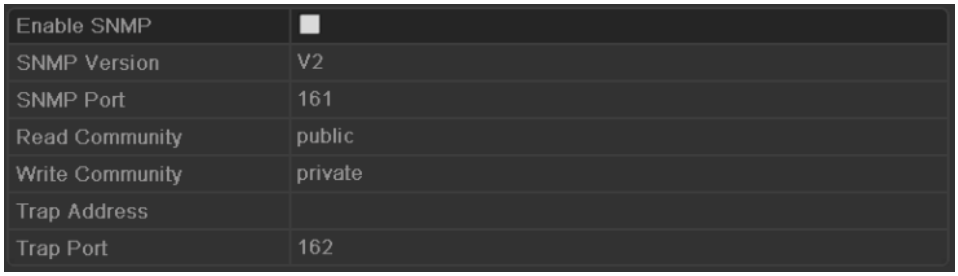


Figure 9.18 SNMP Settings Interface

3. Check the **SNMP** checkbox to enable this feature.
4. Configure the SNMP settings.

Figure 9.19 Configure SNMP Settings

5. Click the **Apply** button to save and exit the interface.

Note: Before setting the SNMP, please download the SNMP software and manage to receive the device information via SNMP port. By setting the Trap Address, the device is allowed to send the alarm event and exception message to the surveillance center.

9.2.5 Configuring NAT

Purpose:

UPnP™ can permits the device seamlessly discover the presence of other network devices on the network and establish functional network services for data sharing, communications, etc. If you want to use the UPnP™ function to enable the fast connection of the device to the WAN via a router, you should configure the UPnP™ parameters of the device.

Before you start:

If you want to enable the UPnP™ function of the device, you must enable the UPnP™ function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

Steps:

1. Enter the Network Settings interface.

Menu > Configuration > Network

2. Select the **NAT** tab to enter the NAT settings interface.

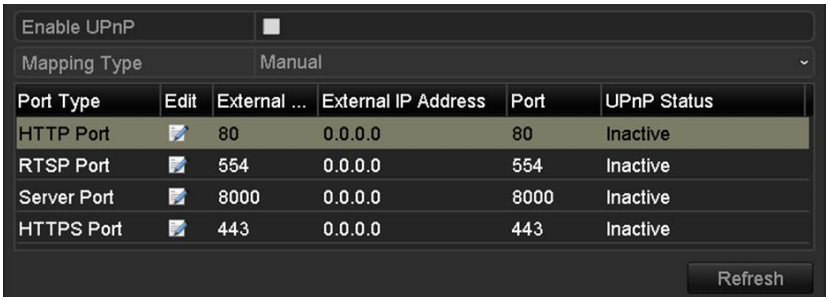


Figure 9.20 UPnP™ Settings Interface

3. Check checkbox to enable UPnP™.
4. Select the mapped type to Auto or Manual.

Task1: Auto

If you select Auto, the Port Mapping items are read-only, and the external ports are set by the router automatically.

Steps:

1) Click **Apply** to save the settings.
2) You can click **Refresh** to get the latest status of the port mapping.

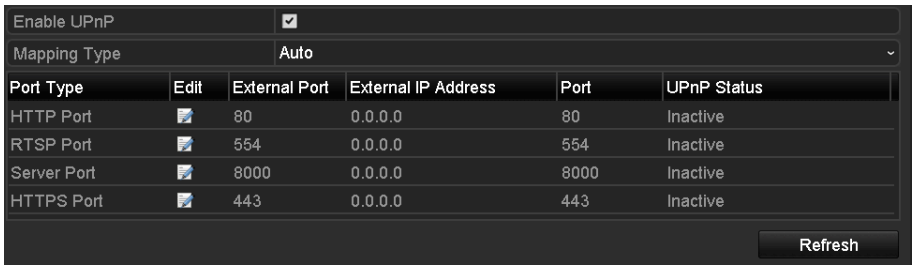


Figure 9.21 UPnP™ Settings Finished-Auto

Task2: Manual

If you select Manual as the mapping type, you can edit the external port on your demand by clicking to activate the External Port Settings dialog box.

Steps:

1) Click to activate the External Port Settings dialog box. Configure the external port No. for server port, http port, RTSP port and https port respectively.

Notes:

- You can use the default port No., or change it according to actual requirements.
- External Port indicates the port No. for port mapping in the router.
- The value of the port No. should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

Figure 9.22 External Port Settings Dialog Box

2) Click **Apply** to save the settings.

3) You can click **Refresh** to get the latest status of the port mapping.

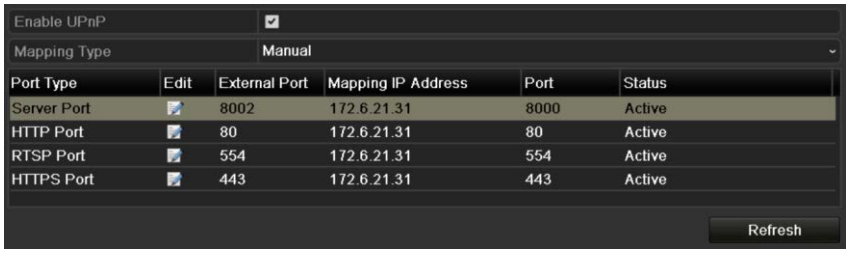


Figure 9.23 UPnP™ Settings Finished-Manual

- **Manual Mapping**

If your router does not support the UPnP™ function, perform the following steps to map the port manually in an easy way.

Before you start:

Make sure the router support the configuration of internal port and external port in the interface of Forwarding.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **NAT** tab to enter the port mapping interface.
3. Leave the Enable UPnP checkbox unchecked.
4. Click to activate the External Port Settings dialog box. Configure the external port No. for server port, http port, RTSP port and https port respectively.

   Note: The value of the RTSP port No. should be 554 or between 1024 and 65535, while the value of the other ports should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

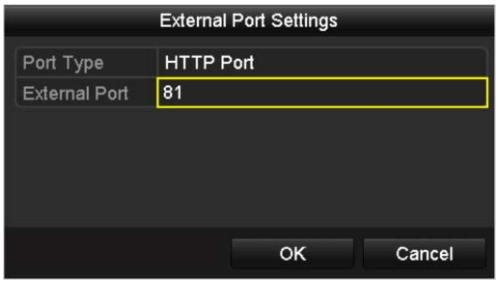


Figure 9.24 External Port Settings Dialog Box

5. Click **OK** to save the setting for the current port and return to the upper-level menu.
6. Click **Apply** button to save the settings.
7. Enter the virtual server setting page of router. Input the internal port value in the Internal Source Port textfield, the external port value in the External Source Port textfield, and other required information.
   Note: Each item should be corresponding with the internal or external device port, including server port, http port, RTSP port and https port.

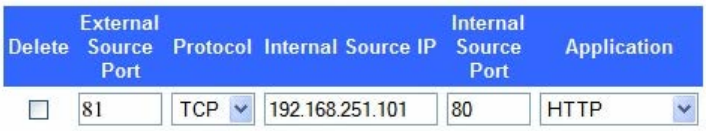


Figure 9.25 Setting Virtual Server Item

Note: The above virtual server setting interface is for reference only, it may be different due to different router manufactures. Please contact the manufacturer of router if you have any problems with setting virtual server.

9.2.6 Configuring Remote Alarm Host

Purpose:

With a remote alarm host configured, the device will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the CMS (Client Management System) software installed.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.

Figure 9.26 More Settings Interface

3. Enter **Alarm Host IP** and **Alarm Host Port** in the text fields.
   The **Alarm Host IP** refers to the IP address of the remote PC on which the CMS (Client Management System) software (e.g., iVMS-4200) is installed, and the **Alarm Host Port** must be the same as the alarm monitoring port configured in the software (default port is 7200).

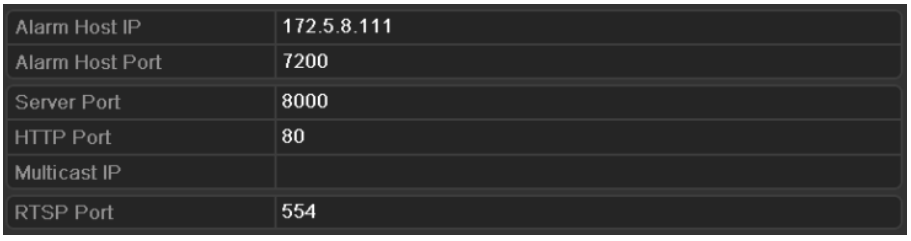


Figure 9.27 Configure Alarm Host

4. Click the **Apply** button to save and exit the interface.

9.2.7 Configuring Multicast

Purpose:

The multicast can be configured to realize live view for more than the maximum number of cameras through network.

A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address ranging from 239.252.0.0 to 239.255.255.255.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.
3. Set **Multicast IP**. When adding a device to the CMS (Client Management System) software, the multicast address must be the same as the device's multicast IP.

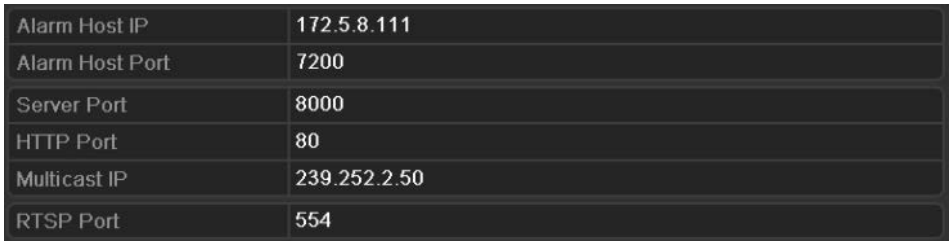


Figure 9.28 Configure Multicast

4. Click the **Apply** button to save and exit the interface.

9.2.8 Configuring RTSP

Purpose:

The RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers.

Steps:

1. Enter the Network Settings menu by clicking Menu > Configuration > Network.
2. Select the **More Settings** tab to enter the More Settings men.

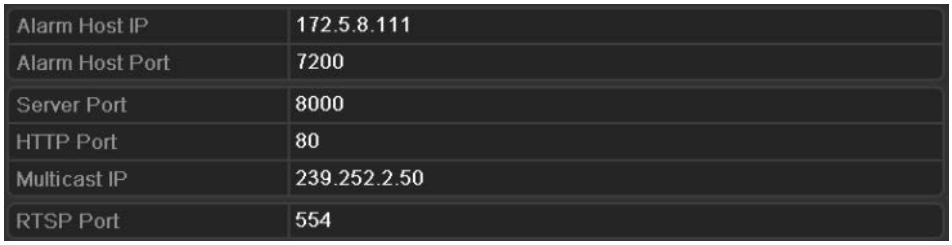


Figure 9.29 RTSP Settings Interface

3. Enter the RTSP port in the text field of **RTSP Service Port**. The default RTSP port is 554, and you can change it according to different requirements.
4. Click the **Apply** button to save and exit the menu.

9.2.9 Configuring Server and HTTP Ports

Purpose:

You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.
3. Enter new **Server Port** and **HTTP Port**.

Figure 9.30 Host/Others Settings Menu

4. Enter the Server Port and HTTP Port in the text fields. The default Server Port is 8000 and the HTTP Port is 80, and you can change them according to different requirements.
5. Click the **Apply** button to save and exit the interface.

Note: The Server Port should be set to the range of 2000-65535 and it is used for remote client software access. The HTTP port is used for remote IE access.

9.2.10 Configuring HTTPS Settings

Purpose:

HTTPS (Hyper Text Transfer Protocol Secure) ensures the data transferred is encrypted using Secure Socket Layer (SSL) or Transport Layer Security (TLS). HTTPS provides authentication of the web site and associated web server that one is communicating with and creates a secure channel over an insecure network. HTTPS URLs begin with *https://* and use port 443 by default. You can modify the port No. as desired.

Example:

If you set the port No. as 445 and the IP address of the device is 192.0.0.64, you can access the device by inputting *https://192.0.0.64:445* in the web browser.

Steps:

1. Access the device via the web browser and enter the HTTPS settings interface.
   Configuration > Remote Configuration > Network Settings > HTTPS
2. Create the self-signed certificate or authorized certificate.

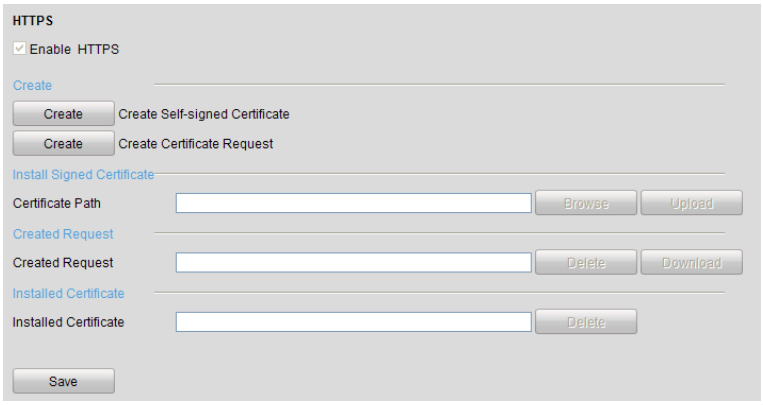


Figure 9.31 HTTPS Settings

OPTION 1: Create the self-signed certificate

1) Click the **Create** button and a dialog box pops up as follows:

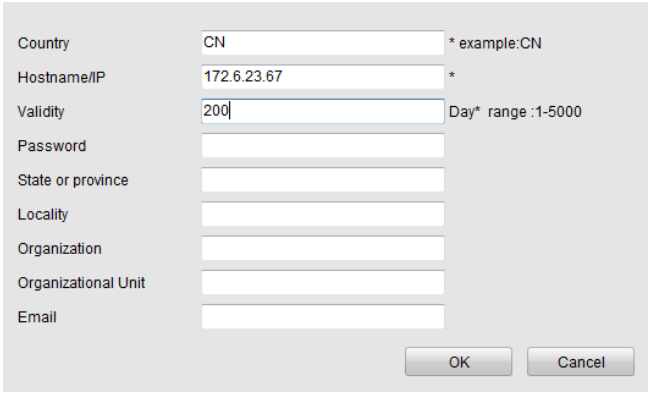


Figure 9.32 Create Self-signed Certificate

2) Enter the country, host name/IP, validity and other information.

3) Click **OK** to save the settings.

OPTION 2: Create the authorized certificate

1) Click the **Create** button to create the certificate request.

2) Download the certificate request and submit it to the trusted certificate authority for signature.

3) After receiving the signed valid certificate, import the certificate to the device.

3. The certificate information will be displayed after you successfully created and installed the certificate.

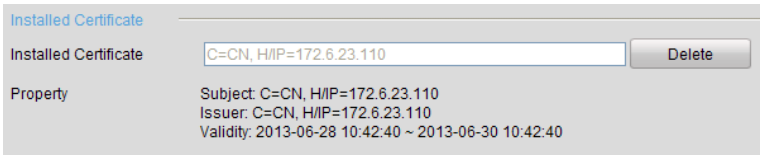


Figure 9.33 Installed Certificate Property

4. Check the checkbox to enable the HTTPS function.

Note: The HTTPS Port should be set to the range of 1-65535.

9.2.11 Configuring Email

Purpose:

The system can be configured to send an Email notification to all designated users if an alarm event is detected, a motion detection event is detected, etc.

Before configuring the Email settings, the device must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu.

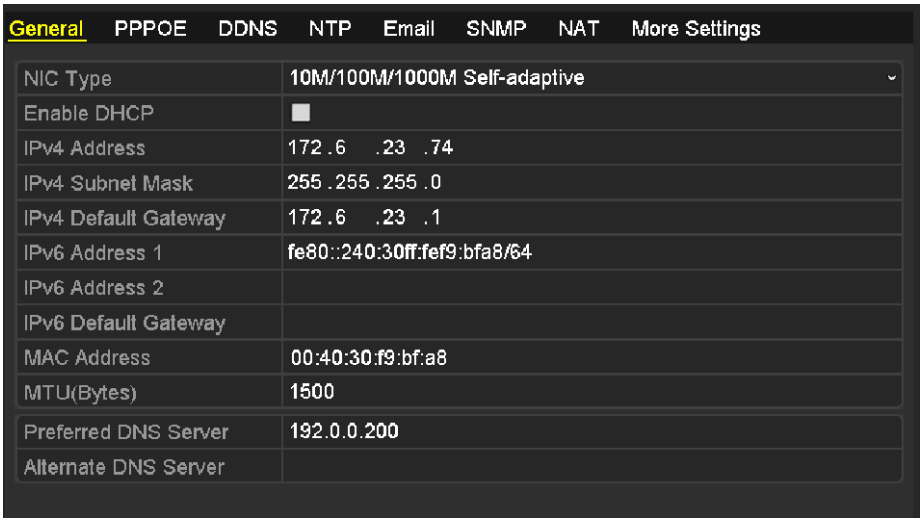


Figure 9.34 Network Settings Interface

3. Click the **Apply** button to save the settings.
4. Select the **Email** tab to enter the Email Settings interface.

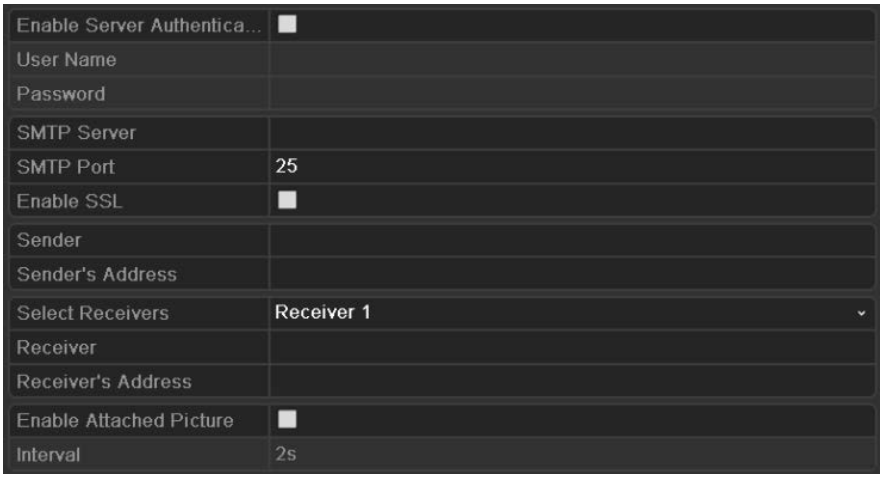


Figure 9.35 Email Settings Interface

5. Configure the following Email settings:

Enable Server Authentication (optional): Check the checkbox to enable the server authentication feature.

User Name: The user account of sender's Email for SMTP server authentication.

Password: The password of sender's Email for SMTP server authentication.

SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).

SMTP Port: The SMTP port. The default TCP/IP port used for SMTP is 25.

Enable SSL (optional): Click the checkbox to enable SSL if required by the SMTP server.

Sender: The name of sender.

Sender's Address: The Email address of sender.

Select Receivers: Select the receiver. Up to 3 receivers can be configured.

Receiver: The name of user to be notified.

Receiver's Address: The Email address of user to be notified.

Enable Attached Pictures: Check the checkbox of **Enable Attached Picture** if you want to send email with attached alarm images.

Interval: The interval refers to the time between two actions of sending attached pictures.

Figure 9.36 Configure Email Settings

6. Click the **Apply** button to save the Email settings.
7. You can click the **Test** button to test whether your Email settings work. The corresponding Attention message box will pop up.

Figure 9.37 Email Testing Attention

9.3 Checking Network Traffic

Purpose:

You can check the network traffic to obtain real-time information of device such as linking status, MTU, sending/receiving rate, etc.

Steps:

1. Enter the Network Traffic interface.

   Menu > Maintenance > Net Detect

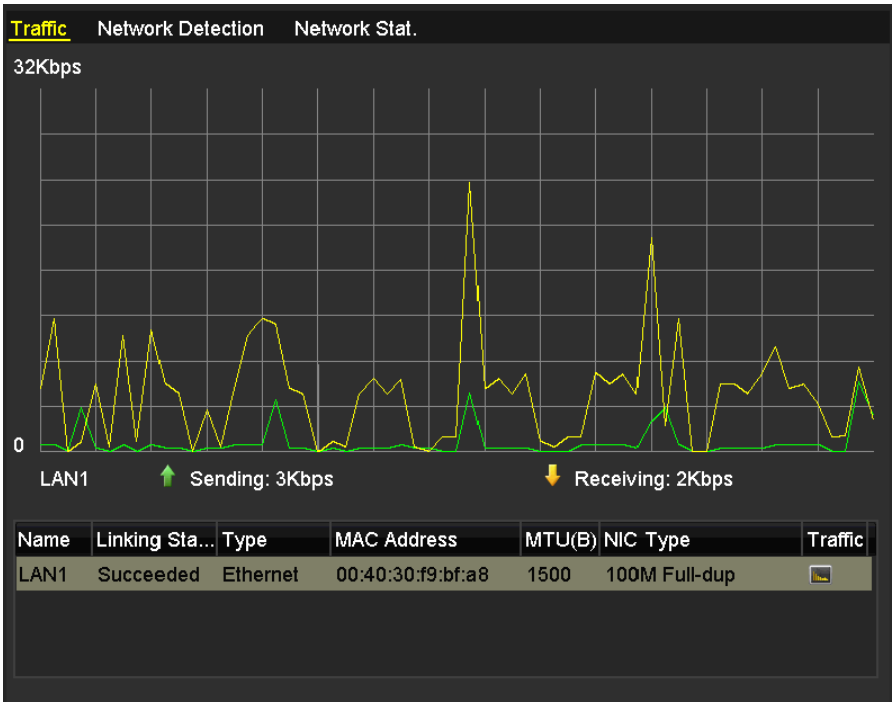


Figure 9.38 Network Traffic Interface

2. You can view the sending rate and receiving rate information on the interface. The traffic data is refreshed every 1 second.

9.4 Network Detection

Purpose:

You can obtain network connecting status of device through the network detection function, including network delay, packet loss, etc.

9.4.1 Testing Network Delay and Packet Loss

Steps:

1. Enter the Network Traffic interface.
   Menu > Maintenance > Net Detect
2. Click the **Network Detection** tab to enter the Network Detection menu.

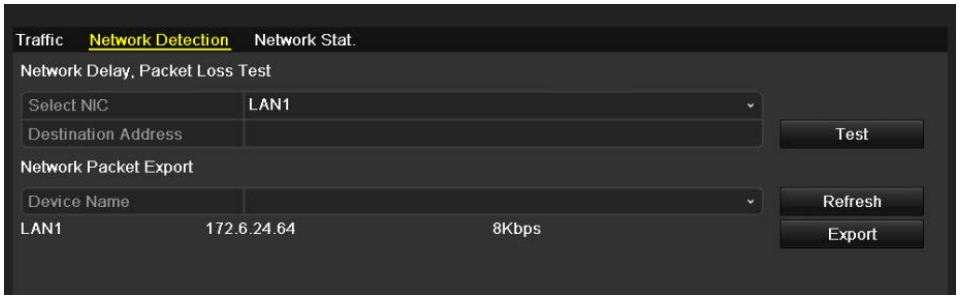


Figure 9.39 Network Detection Interface

3. Enter the destination address in the text field of **Destination Address**.
4. Click the **Test** button to start testing network delay and packet loss. The testing result pops up on the window. If the testing is failed, the error message box will pop up as well. .

Figure 9.40 Testing Result of Network Delay and Packet Loss

9.4.2 Exporting Network Packet

Purpose:

By connecting the device to network, the captured network data packet can be exported to USB-flash disk and other local backup devices.

Steps:

1. Enter the Network Traffic interface.
   Menu > Maintenance > Net Detect
2. Click the **Network Detection** tab to enter the Network Detection interface.

3. Select the backup device from the dropdown list of Device Name.

   Note: Click the **Refresh** button if the connected local backup device cannot be displayed. When it fails to detect the backup device, please check whether it is compatible with the device. You can format the backup device if the format is incorrect.

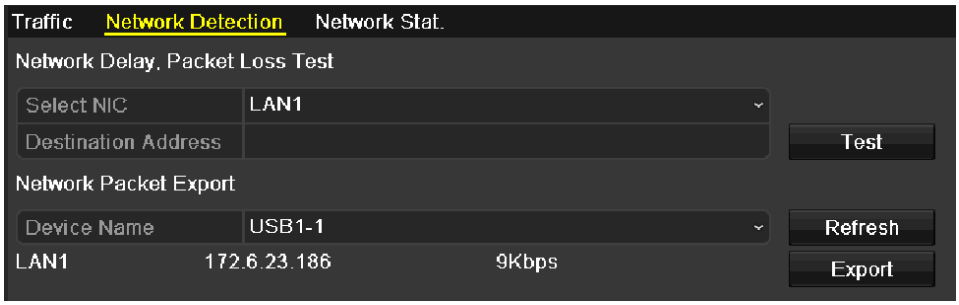


Figure 9.41 Export Network Packet

4. Click the **Export** button to start exporting.
5. After the exporting is complete, click **OK** to finish the packet export.

Figure 9.42 Packet Export Attention

Note: Up to 1M data can be exported each time.

9.4.3 Checking Network Status

Purpose:

You can also check the network status and quick set the network parameters in this interface.

Steps:

Click **Status** on the right bottom of the page.

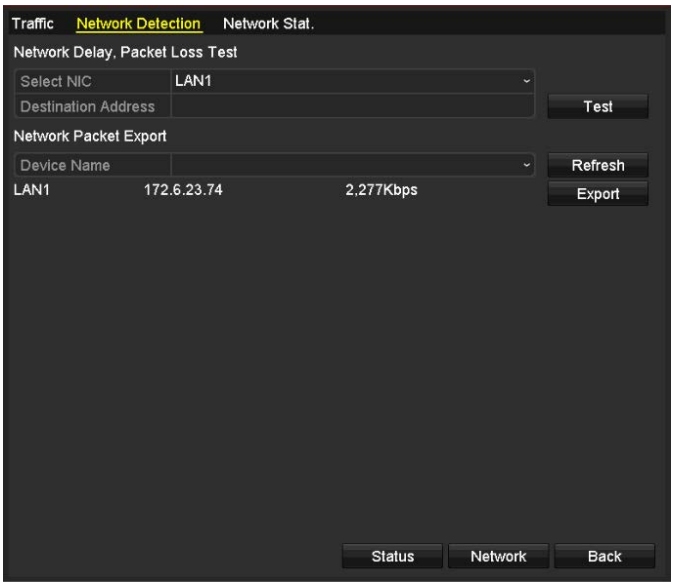


Figure 9.43 Checking Network Status

If the network is normal the following message box pops out.

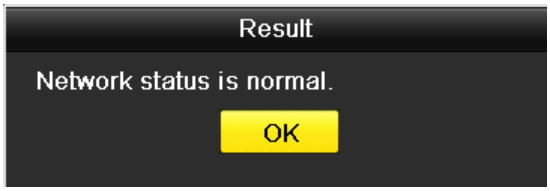


Figure 9.44 Network Status Checking Result

If the message box pops out with other information instead of this one, you can click **Network** button to show the quick setting interface of the network parameters.

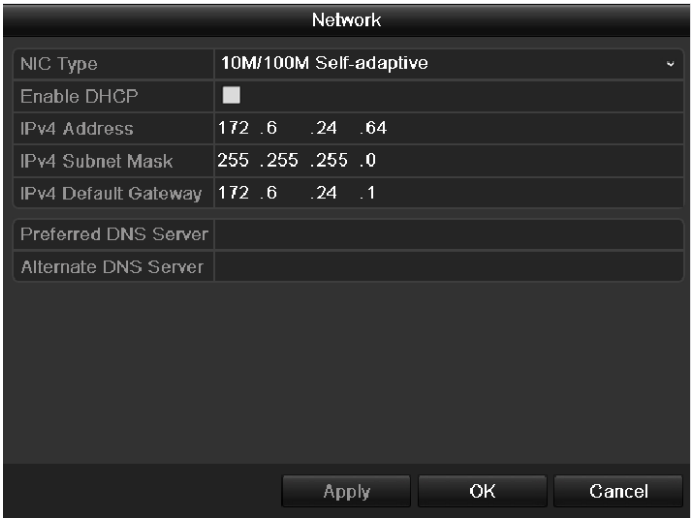


Figure 9.45 Network Parameters Configuration

9.4.4 Checking Network Statistics

Purpose:

You can check the network statistics to obtain the real-time information of the device.

Steps:

1. Enter the Network Statistics interface.

   Menu > Maintenance> Net Detect

2. Click the **Network Stat.** tab to enter the Network Statistics menu.

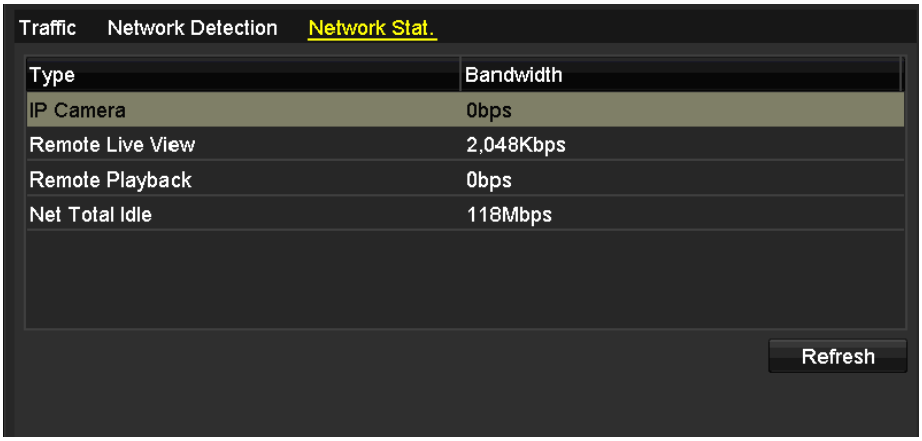


Figure 9.46 Network Stat. Interface

3. View the bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Total Idle information.
4. Click **Refresh** button to get the latest bandwidth statistics.

C H A P T E R 1 0

HDD Management

10.1 Initializing HDDs

Purpose:

A newly installed hard disk drive (HDD) must be initialized before it can be used with your device.

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General

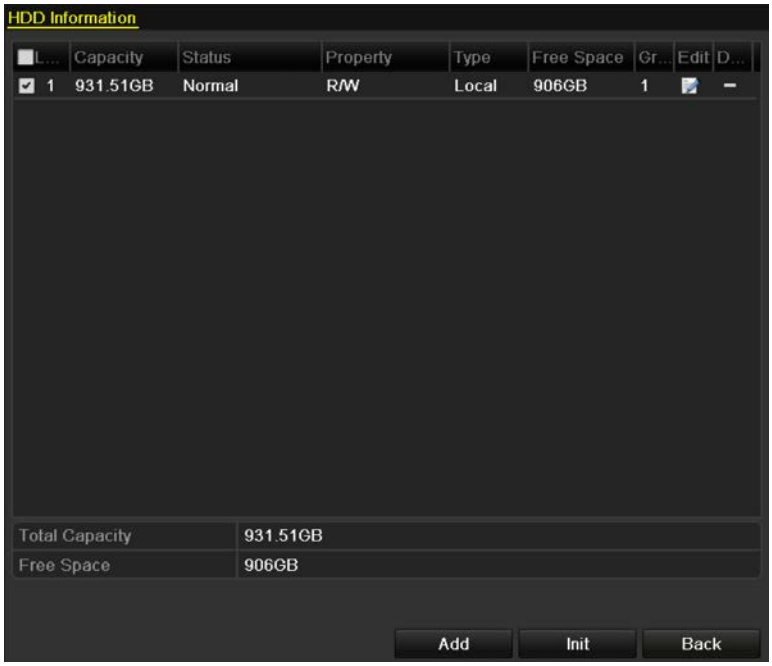


Figure 10.1 HDD Information Interface

2. Select the HDD to be initialized.
3. Click the **Init** button.

Figure 10.2 Confirm Initialization

4. Select the **OK** button to start initialization.
5. After the HDD has been initialized, the status of the HDD will change from *Uninitialized* to *Normal*.

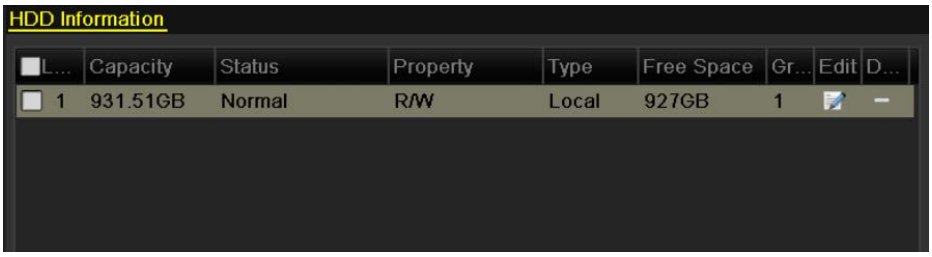


Figure 10.3 HDD Status Changes to Normal

Note: Initializing the HDD will erase all data on it.

10.2 Managing Network HDD

Purpose:

You can add the allocated NAS or disk of IP SAN to device, and use it as network HDD.

Steps:

1. Enter the HDD Information interface.

   Menu > HDD > General

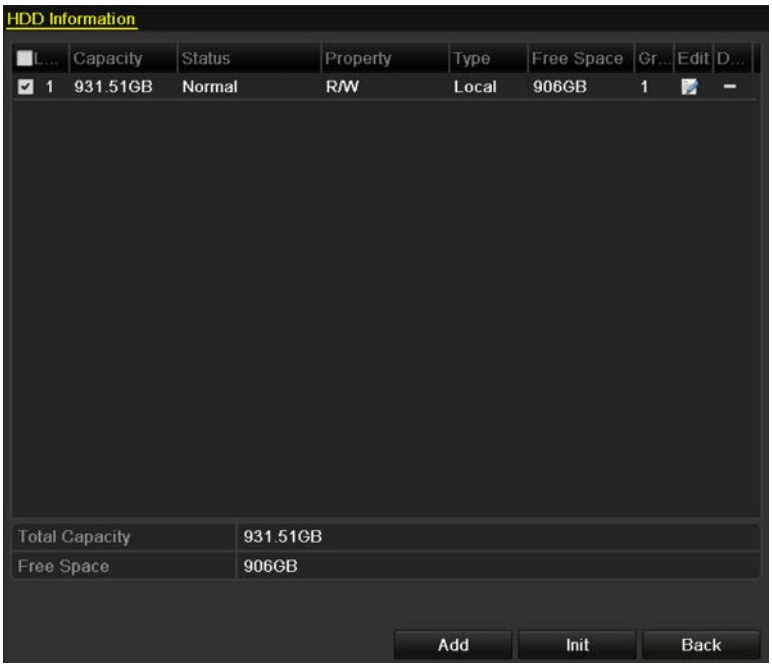


Figure 10.4 HDD Information Interface

2. Click the **Add** button to enter the Add NetHDD interface, as shown in Figure 10.5.

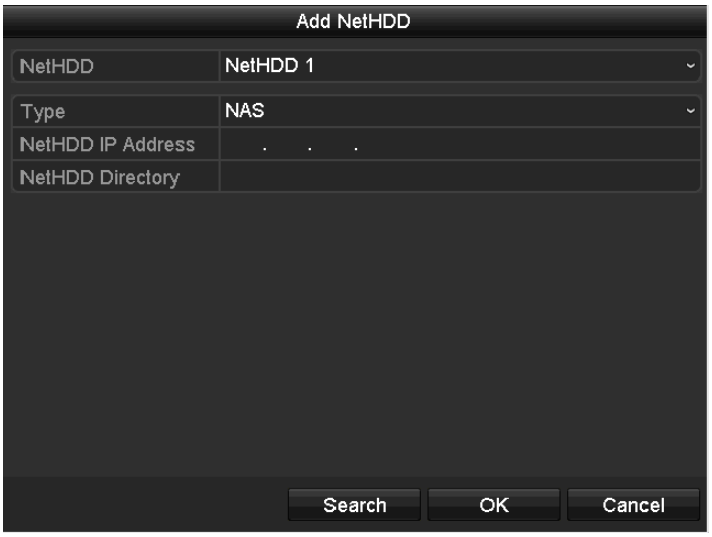


Figure 10.5 Adding NetHDD Interface

3. Add the allocated NetHDD.
4. Select the type to NAS or IP SAN.

5. Configure the NAS or IP SAN settings.

- **Add NAS disk:**

1) Enter the NetHDD IP address in the text field.
2) Click **Search** to search the available NAS disks.
3) Select the NAS disk from the list shown below.
   Or you can just manually enter the directory in the text field of NetHDD Directory.
4) Click the **OK** button to add the configured NAS disk.

Note: Up to 8 NAS disks can be added.

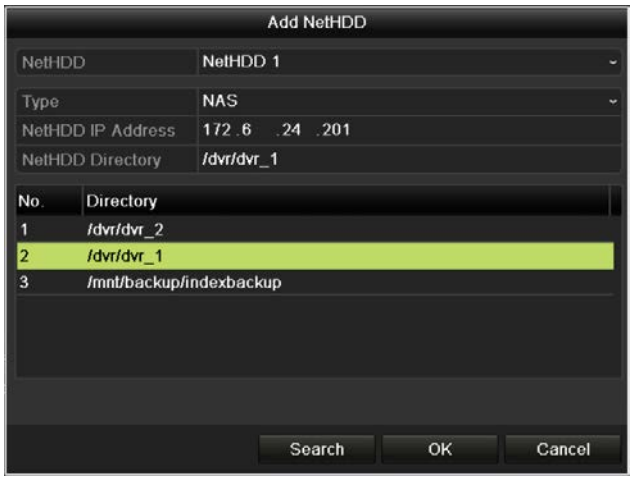


Figure 10.6 Add NAS Disk

- **Add IP SAN:**

1) Enter the NetHDD IP address in the text field.
2) Click the **Search** button to the available IP SAN disks.
3) Select the IP SAN disk from the list shown below.
4) Click the **OK** button to add the selected IP SAN disk.

Note: Up to 1 IP SAN disk can be added.

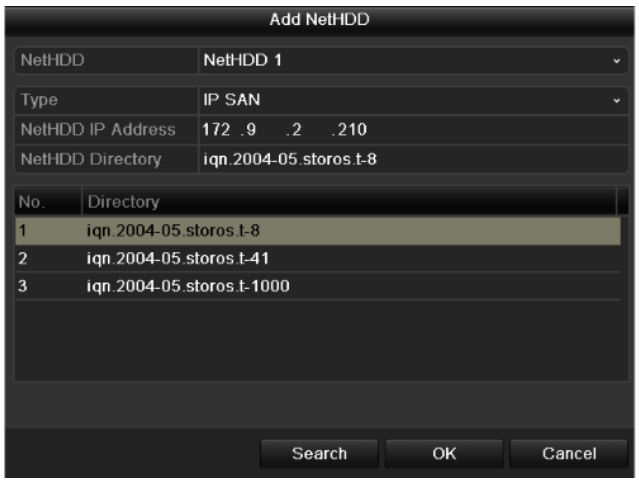


Figure 10.7 Add IP SAN Disk

6. After having successfully added the NAS or IP SAN disk, return to the HDD Information menu. The added NetHDD will be displayed in the list.

Note: If the added NetHDD is uninitialized, please select it and click the **Init** button for initialization.

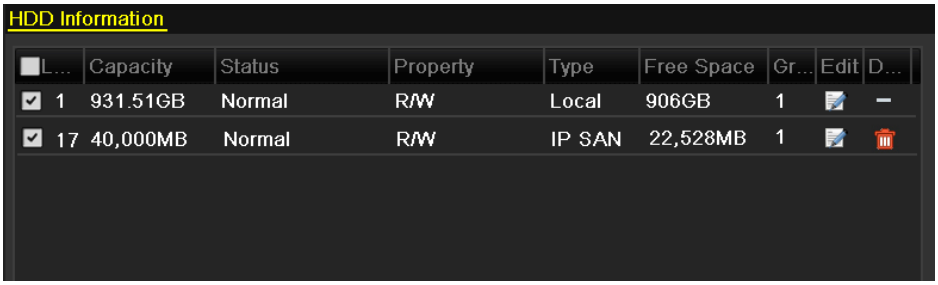


Figure 10.8 Initialize Added NetHDD

10.3 Managing HDD Group

10.3.1 Setting HDD Groups

Purpose:

Multiple HDDs can be managed in groups. Video from specified channels can be recorded onto a particular HDD group through HDD settings.

Steps:

1. Enter the Storage Mode interface.
   Menu > HDD > Advanced
2. Set the **Mode** to Group, as shown below:

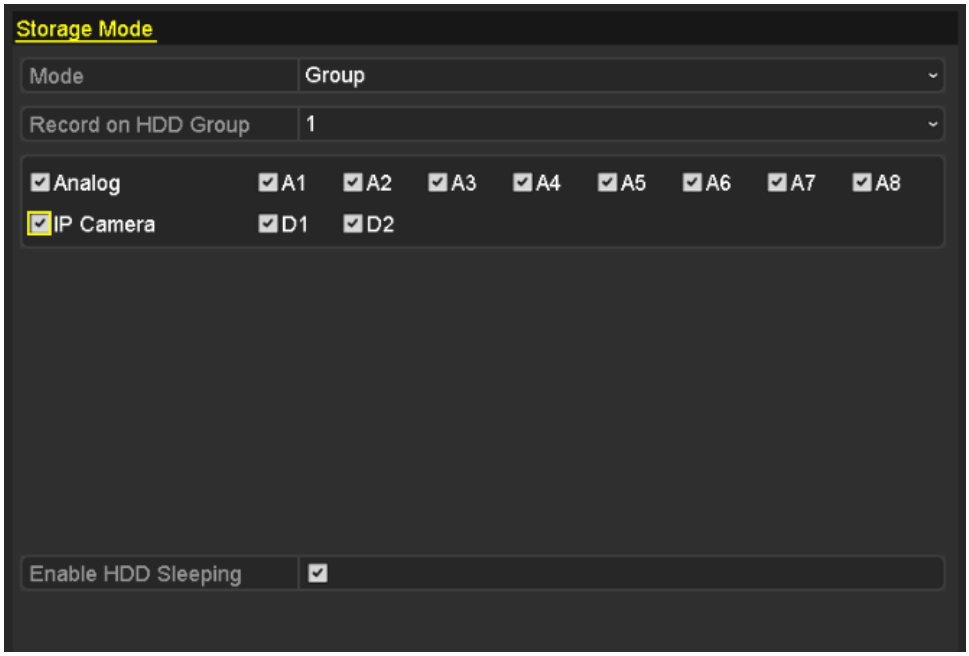


Figure 10.9 Storage Mode Interface

Note: **IP Camera** is supported by HDVR series only.

3. Click the **Apply** button and the following Attention box will pop up.

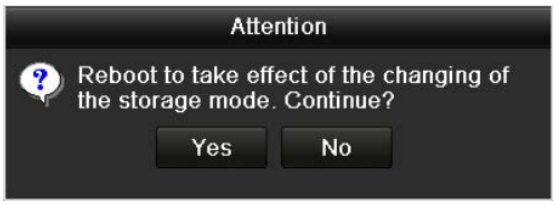


Figure 10.10 Attention for Reboot

4. Click the **Yes** button to reboot the device to activate the changes.
5. After reboot of device, enter the HDD Information interface.
   Menu > HDD > General
6. Select HDD from the list and click the icon to enter the Local HDD Settings interface.

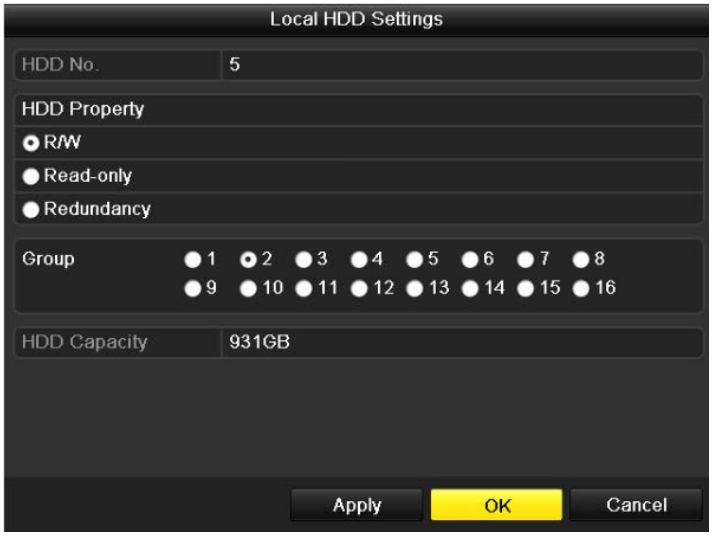


Figure 10.11 Local HDD Settings Interface

7. Select the Group number for the current HDD.

   Note: The default group No. for each HDD is 1.

8. Click the **OK** button to confirm the settings.

Figure 10.12 Confirm HDD Group Settings

9. In the pop-up Attention box, click the **Yes** button to finish the settings.

10.3.2 Setting HDD Property

Purpose:

The HDD property can be set to redundancy, read-only or read/write (R/W). Before setting the HDD property, please set the storage mode to Group (refer to step1-4 of *Chapter 10.3.1 Setting HDD Groups*).

A HDD can be set to read-only to prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

When the HDD property is set to redundancy, the video can be recorded both onto the redundancy HDD and the R/W HDD simultaneously so as to ensure high security and reliability of video data.

Steps:

1. Enter the HDD Information interface.

   Menu > HDD > General

2. Select HDD from the list and click the icon to enter the Local HDD Settings interface.

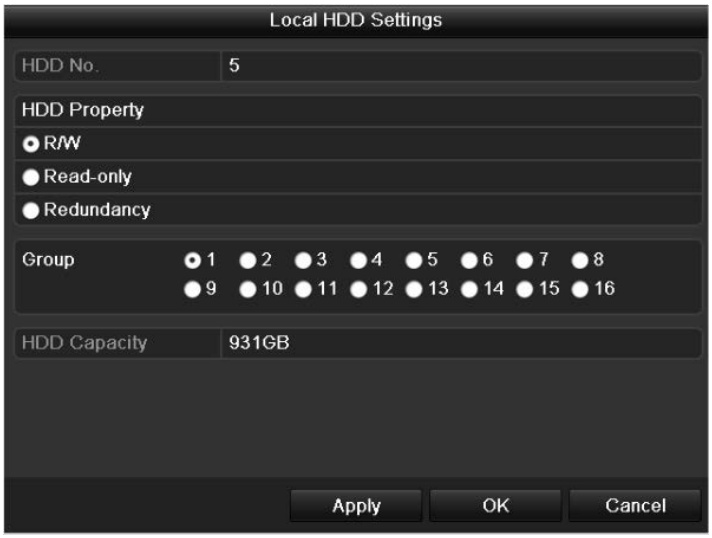


Figure 10.13 Set HDD Property

3. Set the HDD property to R/W, Read-only or Redundancy.
4. Click the **OK** button to save the settings and exit the interface.
5. In the HDD Information menu, the HDD property will be displayed in the list.

Note: At least 2 disks (HDD or network disk) must be installed or connected on your device when you want to set a HDD to Redundancy, and there is one HDD with R/W property.

10.4 Configuring Quota Mode

Purpose

Each camera can be configured with allocated quota for the storage of recorded files.

Steps

1. Enter the Storage Mode interface.
   Menu > HDD > Advanced
2. Set the **Mode** to **Quota**.
   Note: The device must be rebooted to enable the changes to take effect.

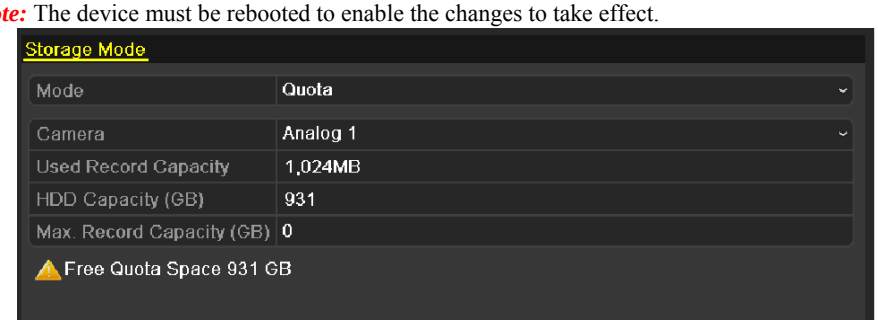


Figure 10.14 Storage Mode Settings Interface

3. Enter the storage capacity in the text field of **Max. Record Capacity (GB)**.

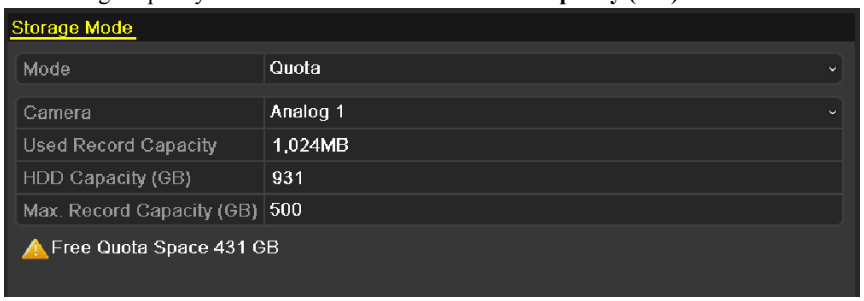


Figure 10.15 Configure Record Quota

4. You can copy the quota settings of the current camera to other cameras if required. Click the **Copy** button to enter the Copy Camera menu, as shown below.

Figure 10. 16 Copy Settings to Other Camera(s)

5. Select the camera (s) to be configured with the same quota settings. You can also click the checkbox of **Analog** to select all cameras.
6. Click the **OK** button to finish the Copy settings and back to the Storage Mode interface.
7. Click the **Apply** button to apply the settings.
   Note: If the quota capacity is set to *0*, then all cameras will use the total capacity of HDD for recording.

10.5 Checking HDD Status

Purpose:

You may check the status of the installed HDDs on device so as to take immediate check and maintenance in case of HDD failure.

Checking HDD Status in HDD Information Interface

Steps:

1. Enter the HDD Information interface.
   Menu > HDD>General
2. Check the status of each HDD which is displayed on the list.

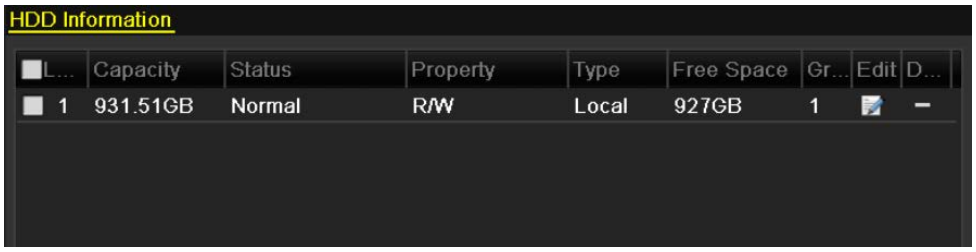


Figure 10.17 View HDD Status (1)

Note: If the status of HDD is *Normal* or *Sleeping*, it works normally. If the status is *Uninitialized* or *Abnormal*, please initialize the HDD before use. And if the HDD initialization is failed, please replace it with a new one.

Checking HDD Status in HDD Information Interface

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **HDD** tab to view the status of HDD displayed on the list.

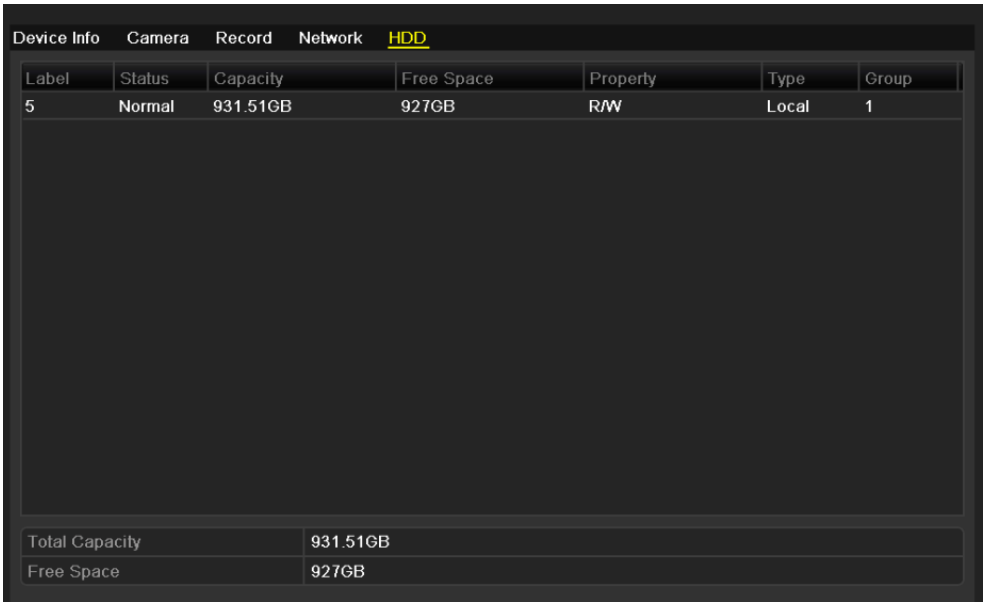


Figure 10.18 View HDD Status (2)

10.6 Checking S.M.A.R.T. Information

Purpose:

The S.M.A.R.T. *(*Self-Monitoring, Analysis and Reporting Technology*)* is a monitoring system for HDD to detect and report on various indicators of reliability in the hopes of anticipating failures.

Steps:

1. Enter the S.M.A.R.T. Settings interface.
   Menu > HDD >HDD Detect >S.M.A.R.T. Settings
2. Select the HDD to view its S.M.A.R.T. information list.
   Note: If you want to use the HDD even when the S.M.A.R.T. checking is failed, you can check the checkbox before the **Continue to use this disk when self-evaluation is failed** item.
3. Three self-tests of S.M.A.R.T are provided, including Short Test, Expanded Test and Conveyance Test. You can select a self-test type and click to start self-test.

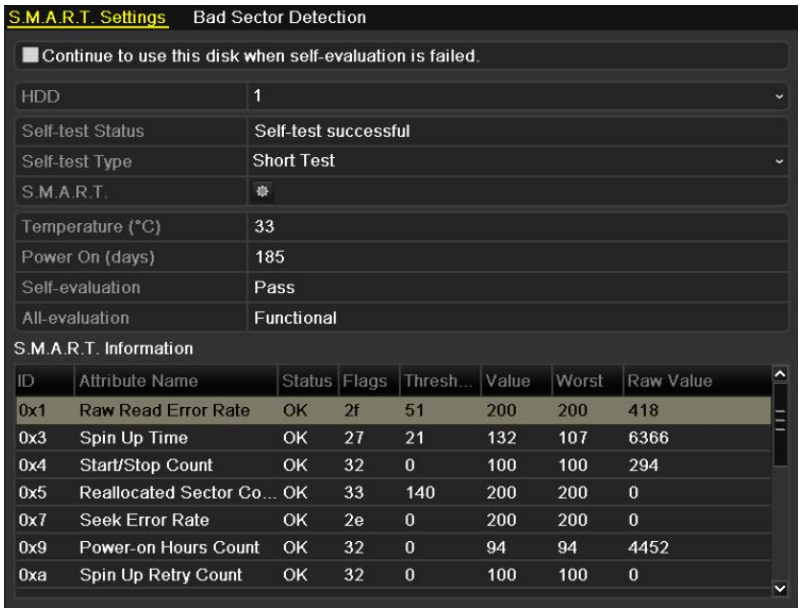


Figure 10.19 S.M.A.R.T. Settings Interface

10.7 Detecting Bad Sector

Purpose:

The bad sectors of a HDD may cause the system to slow down when reading or writing data. You can detect the bad sectors of the HDD and thus to take immediate measures to repair it.

Steps:

1. Enter the Bad Sector Detection interface.

   Menu>HDD>HDD Detect>Bad Sector Detection

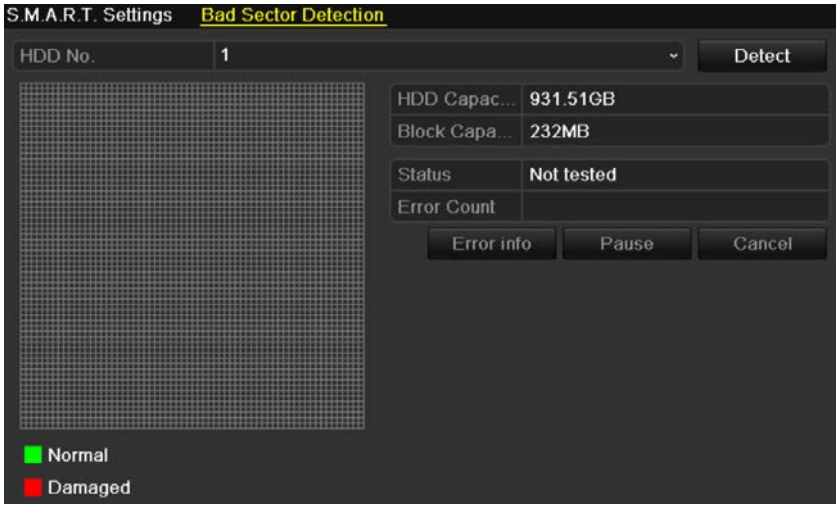


Figure 10.20 Bad Sector Detection

2. Select a HDD and click **Detect** to start detecting.

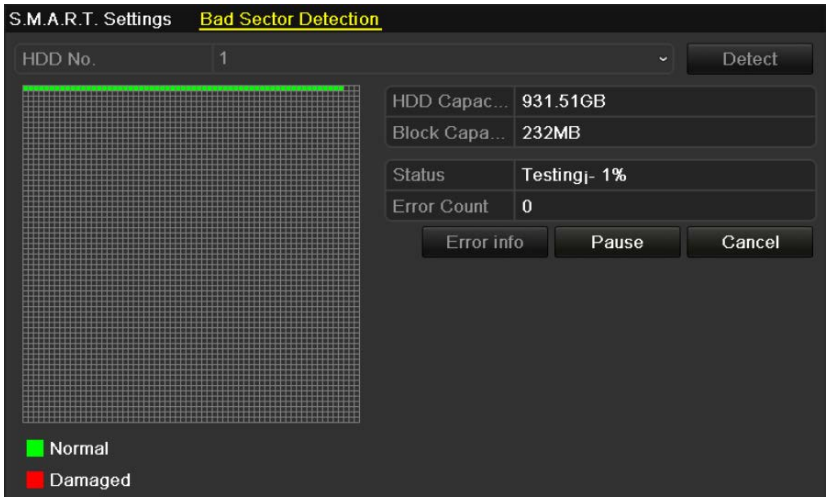


Figure 10.21 Bad Sector Detecting

3. You can click **Pause** to pause the detection and click **Resume** to resume the detection.
4. If there is any error information about the HDD, you can click **Error info** to view the information.

10.8 Configuring HDD Error Alarms

Purpose:

You can configure the HDD error alarms when the HDD status is *Uninitialized* or *Abnormal*.

Steps:

1. Enter the Exception interface.
   Menu > Configuration > Exceptions
2. Select the Exception Type to **HDD Error** from the dropdown list.
3. Click the checkbox(s) below to select the HDD error alarm type (s).

Note: The alarm type can be selected to: Audio Warning, Notify Surveillance Center, and Send Email. Please refer to *Chapter 8.5 Setting Alarm Response Actions*.

Figure 10.22 Configure HDD Error Alarm

4. Click the **Apply** button to save the settings.

C H A P T E R 11

Camera Settings

11.1 Configuring OSD Settings

Purpose:

You can configure the OSD (On-screen Display) settings for the camera, including date /time, camera name, etc.

Steps:

1. Enter the OSD Configuration interface.
   Menu > Camera > OSD
2. Select the camera to configure OSD settings.
3. Edit the Camera Name in the text field.
4. Configure the Display Name, Display Date and Display Week by clicking the checkbox.
5. Select the Date Format, Time Format and Display Mode.

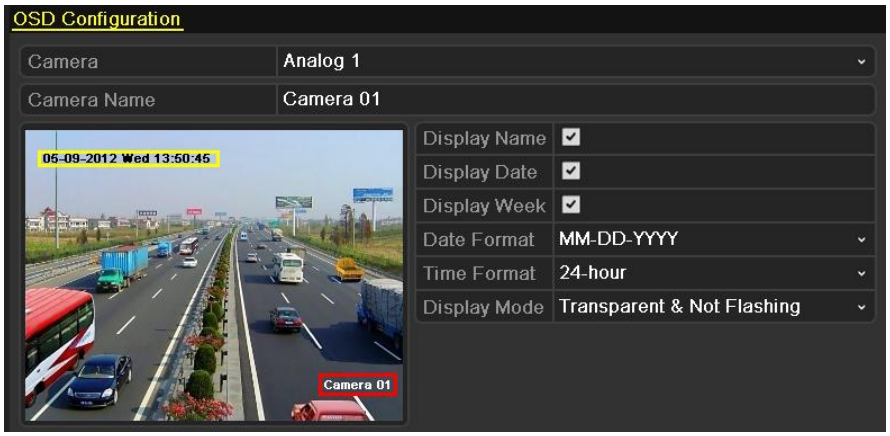


Figure 11.1 OSD Configuration Interface

6. You can use the mouse to click and drag the text frame on the preview window to adjust the OSD position.
7. Copy Camera Settings
   1) If you want to copy the OSD settings of the current camera to other cameras, click the **Copy** button to enter the Copy Camera interface, as shown in Figure 11.2.

Figure 11.2 Copy Settings to Other Cameras

   2) Select the camera (s) to be configured with the same OSD settings. You can also click the checkbox of Analog to select all cameras.
   3) Click the **OK** button to finish the Copy settings and back to the OSD Configuration interface.
8. Click the **Apply** button to apply the settings.
   Note: You can also click the **Restore** to restore the current OSD settings to the default parameters.

11.2 Configuring Privacy Mask

Purpose:

You are allowed to configure the four-sided privacy mask zones that cannot be viewed by the operator.

Steps:

1. Enter the Privacy Mask Settings interface.

   Menu > Camera > Privacy Mask

2. Select the camera to set privacy mask.
3. Click the checkbox of **Enable Privacy Mask** to enable this feature.

Figure 11.3 Privacy Mask Settings Interface

4. Use the mouse to draw a zone on the window. The zones will be marked with different frame colors.

Note: Up to 4 privacy mask zones can be configured, and the size of each area can be adjusted.

5. The configured privacy mask zones on the window can be cleared by clicking the corresponding Clear Zone1-4 icons on the right side of the window, or click **Clear All** to clear all zones.

Figure 11.4 Set Privacy Mask Area

6. You can click the **Copy** button to copy the privacy mask settings of the current camera to other cameras. Please refer to step 7 of *Chapter 11.1 Configuring OSD Settings*.
7. Click the **Apply** button to save the settings.

   Note: You can also click the **Restore** to restore the current OSD settings to the default parameters.

11.3 Configuring Video Parameters

Steps:

1. Enter the Image Settings interface.

   Menu > Camera > Image
2. Select the camera to set image parameters.
3. Set the period of a day for configuring independent image parameters so as to satisfy different light conditions, e.g., daylight and night time. Two periods can be configured. When you have configured Period 1, the Period 2 is remained as the *Other Time*.

Figure 11.5 Image Settings Interface

4. Select the mode from the drop-down menu according to different light conditions.

   Four modes are selectable:
   - **Standard**: in general lighting conditions (default).
   - **Indoor:** the image is relatively smoother.
   - **Dim Light:** the image is smoother than the other three modes.
   - **Outdoor:** the image is relatively clearer and sharper. The degree of contrast and saturation is high.
5. Adjust the image parameters including the brightness, contrast, saturation, hue, sharpness and denoising level by moving the sliding bar or increasing/decreasing the value.

   Note: When you select different mode, corresponding default parameters are available. You can also adjust the value of the brightness, contrast, saturation and hue to 0~ 255, the sharpness to 0~ 15 and the denoising level to 0~ 5.
6. You can click the **Copy** button to copy the image settings of the current camera to other cameras. Please refer to step 7 of *Chapter 11.1 Configuring OSD Settings*.
7. On the Image Settings interface, click the **Apply** button to save the settings.

Note: you can click the **Restore** button to restore the current image settings to default parameters.

11.4 Configuring Video Quality Diagnostics

Purpose:

When the video quality is diagnosed abnormal (e.g., blurred image, abnormal brightness and color cast), the alarm will be triggered and linked with the configured response actions

Steps:

1. Enter the Video Quality Diagnostics interface.
   Menu> Camera > Video Quality Diagnostics
2. Select the camera for adjusting the video quality parameters.
3. Check the checkbox to enable the Video Quality Diagnostics.
4. Click the to enter the Settings interface. Configure the arming schedule of triggering video quality diagnostics alarm.

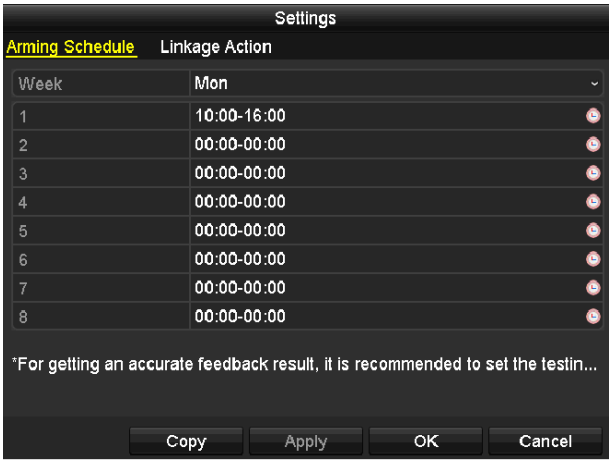


Figure 11.6 Arming Schedule of VQD

5. Configure the linkage actions of video quality diagnostics alarm.

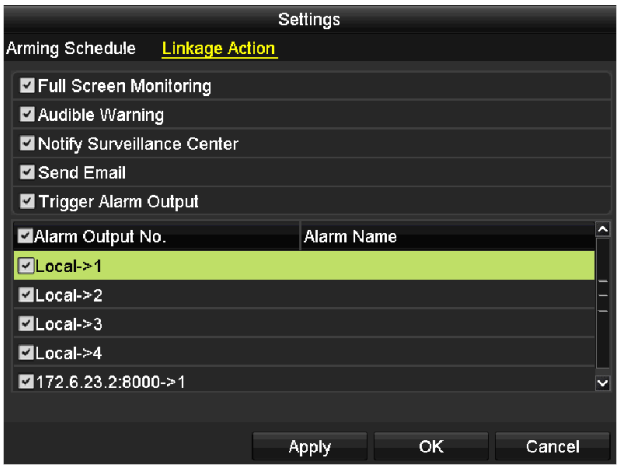


Figure 11.7 Linking Actions of VQD

6. Configure the threshold of the three exception types: Blurred Image, Abnormal Brightness and Color Cast. The value can be set to 0~100. When the actual value exceeds the configured threshold, the video quality diagnostics alarm will be triggered and linked with the response actions.

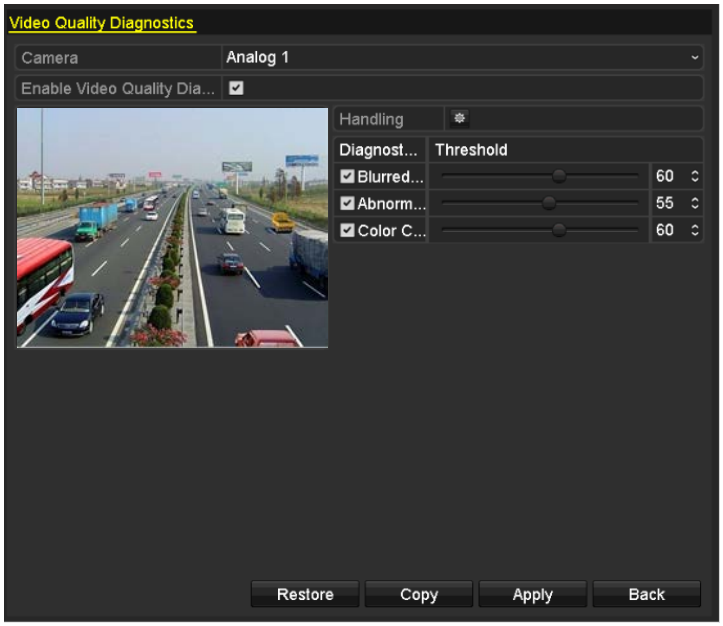


Figure 11.8 Image Settings Interface

7. Click **Apply** to save the settings.

   You can click **Copy** to copy the settings to other analog cameras; or click **Restore** to restore the values of the Blurred Image, Abnormal Brightness and Color Cast to the default settings.

C H A P T E R 1 2

Device Management and Maintenance

12.1 Viewing System Information

12.1.1 Viewing Device Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Device Info** tab to enter the Device Information menu to view the device name, model, serial No. , firmware version and encoding version.

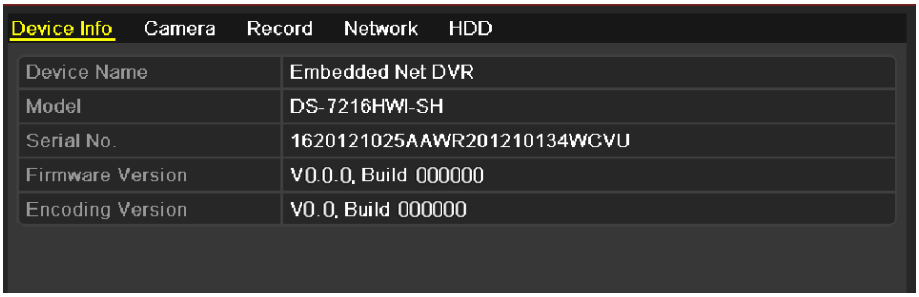


Figure 12.1 Device Information Interface

12.1.2 Viewing Camera Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Camera** tab to enter the Camera Information menu to view the status of each camera.

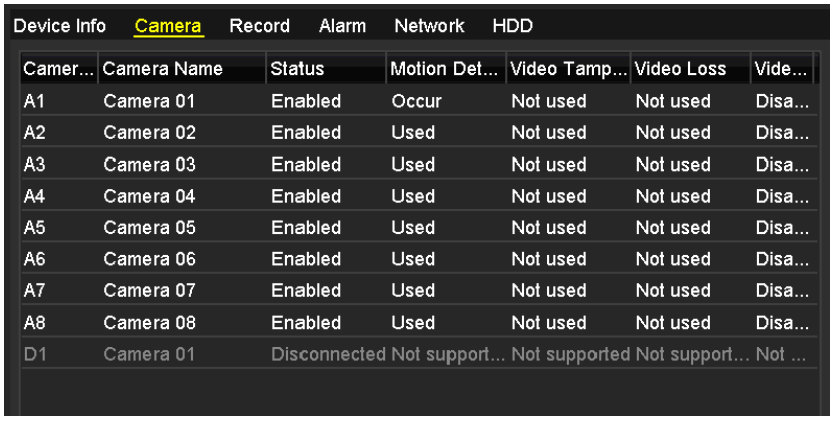

Device Info
Camera
Record
Alarm
Network
HDD
Camer...
Camera Name
Status
Motion Det...
Video Tamp...
Video Loss
Vide...
A1 Camera 01 Enabled Occur Not used Not used Disa...
A2 Camera 02 Enabled Used Not used Not used Disa...
A3 Camera 03 Enabled Used Not used Not used Disa...
A4 Camera 04 Enabled Used Not used Not used Disa...
A5 Camera 05 Enabled Used Not used Not used Disa...
A6 Camera 06 Enabled Used Not used Not used Disa...
A7 Camera 07 Enabled Used Not used Not used Disa...
A8 Camera 08 Enabled Used Not used Not used Disa...
D1 Camera 01 Disconnected Not support... Not supported Not support... Not ...

Figure 12.2 Camera Information Interface

12.1.3 Viewing Record Information

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **Record** tab to enter the Record Information menu to view the recording status and encoding parameters of each camera.

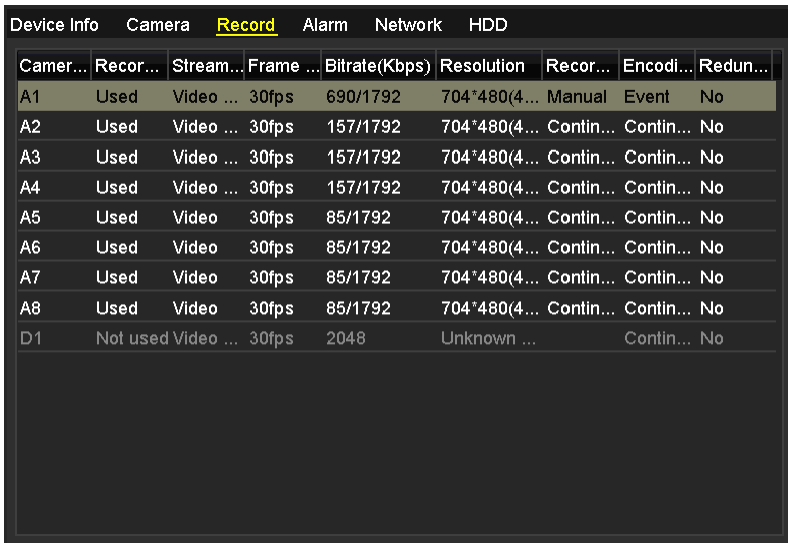

Device Info
Camera
Record
Alarm
Network
HDD
Camer... Recor... Stream... Frame ... Bitrate(Kbps) Resolution Recor... Encodi... Redun...
A1 Used Video ... 30fps 690/1792 704*480(4... Manual Event No
A2 Used Video ... 30fps 157/1792 704*480(4... Contin... Contin... No
A3 Used Video ... 30fps 157/1792 704*480(4... Contin... Contin... No
A4 Used Video ... 30fps 157/1792 704*480(4... Contin... Contin... No
A5 Used Video 30fps 85/1792 704*480(4... Contin... Contin... No
A6 Used Video 30fps 85/1792 704*480(4... Contin... Contin... No
A7 Used Video 30fps 85/1792 704*480(4... Contin... Contin... No
A8 Used Video 30fps 85/1792 704*480(4... Contin... Contin... No
D1 Not used Video ... 30fps 2048 Unknown ... Contin... No

Figure 12.3 Record Information Interface

12.1.4 Viewing Alarm Information

Note: This function is available for DS-7224/7232-SH, DS-7300-SH and DS-8100-SH series DVR only.

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **Alarm** tab to enter the Alarm Information interface to view the alarm information.

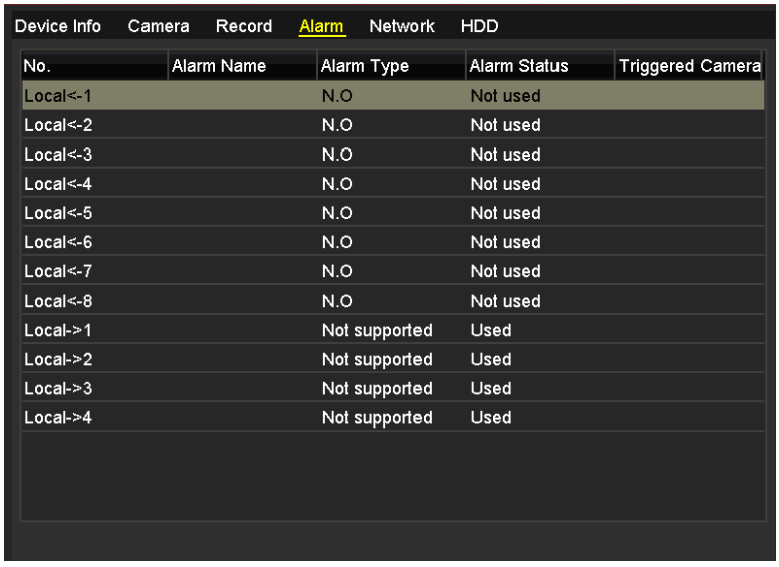


Figure 12.4 Alarm Information Interface

12.1.5 Viewing Network Information

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **Network** tab to enter the Network Information menu to view the network information.

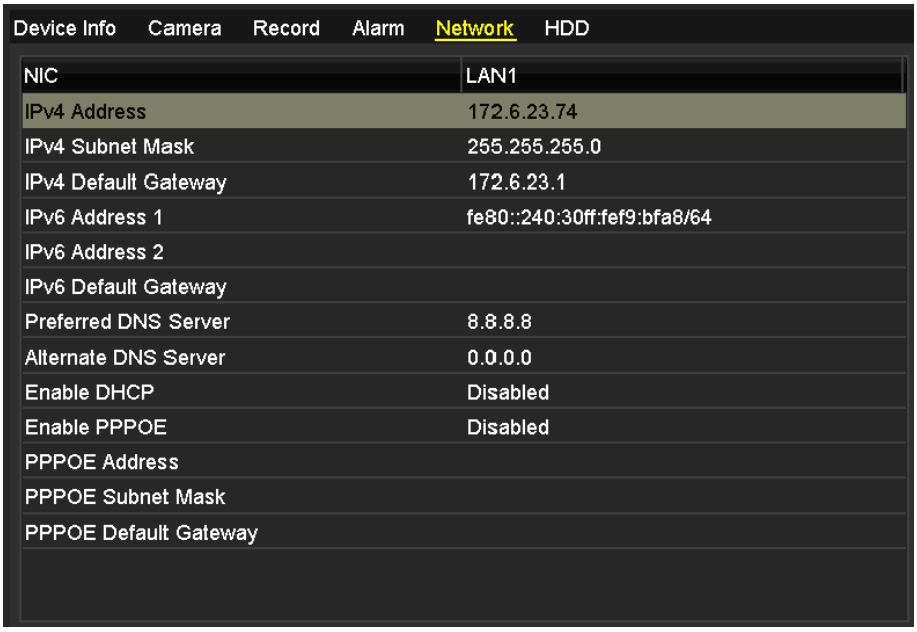


Figure 12.5 Network Information Interface

12.1.6 Viewing HDD Information

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **HDD** tab to enter the HDD Information menu to view the HDD status, free space, property, etc.

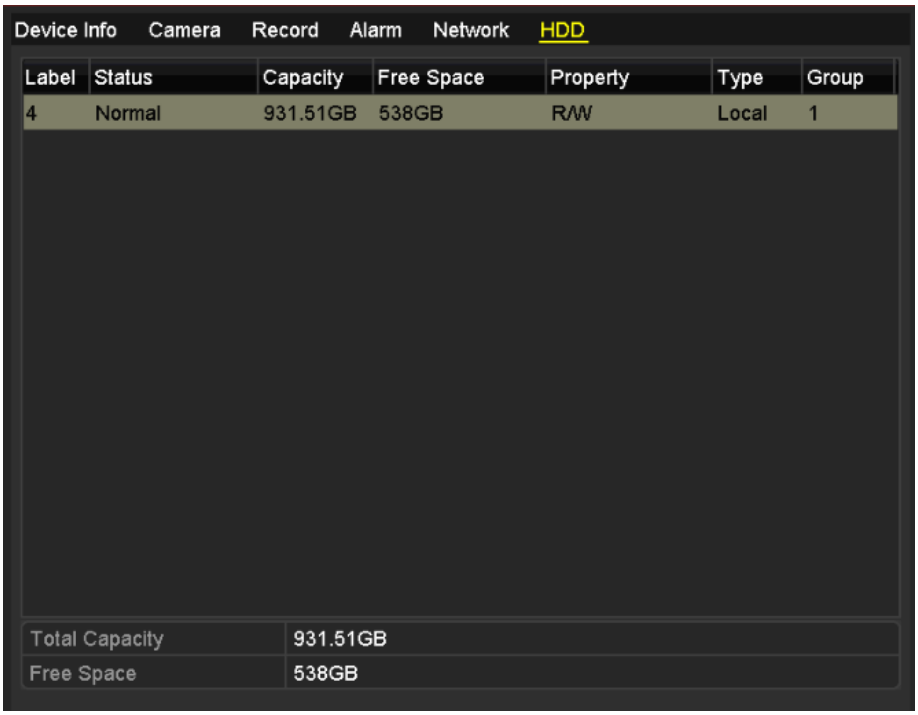


Figure 12.6 HDD Information Interface

12.2 Searching & Exporting Log Files

Purpose:

The operation, alarm, exception and information of the device can be stored in log files, which can be viewed and exported at any time.

Steps:

1. Enter the Log Search interface.

   Menu > Maintenance > Log Information > Log Search

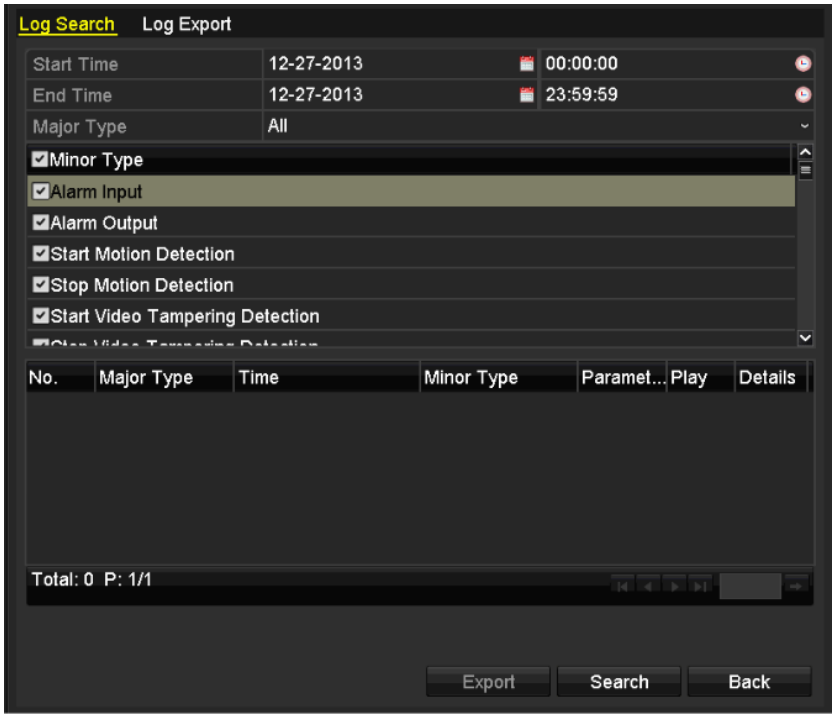


Figure 12.7 Log Search Interface

2. Set the log search conditions to refine your search, including the Start Time, End Time, Major Type and Minor Type.
3. Click the **Search** button to start searching log files.
4. The matched log files will be displayed on the list shown below.

Note: Up to 2000 log files can be displayed each time.

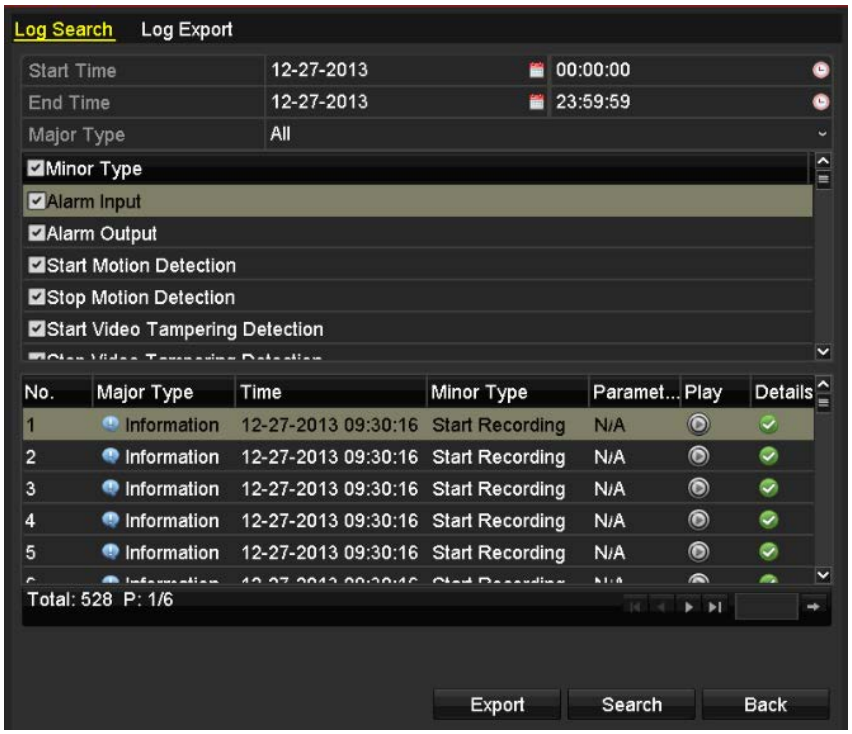


Figure 12.8 Log Search Results

5. You can click the button of each log or double click it to view its detailed information. And you can also click the button to view the related video files if available.

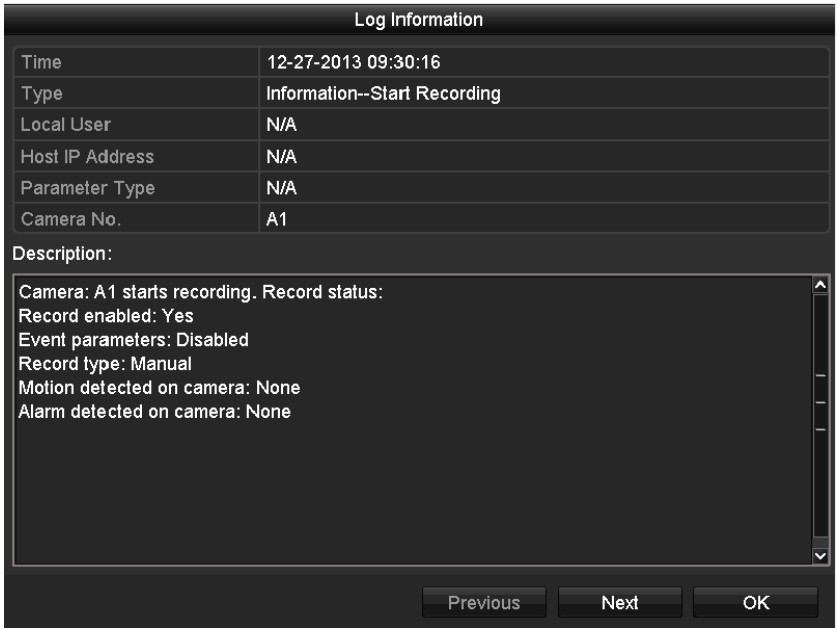


Figure 12.9 Log Details

6. If you want to export the log files, click the **Export** button to enter the Export menu.

   You can also export all the log files stored in the HDD.

   (1) Enter the Log Export interface.

   Menu > Maintenance > Log Information>Log Export

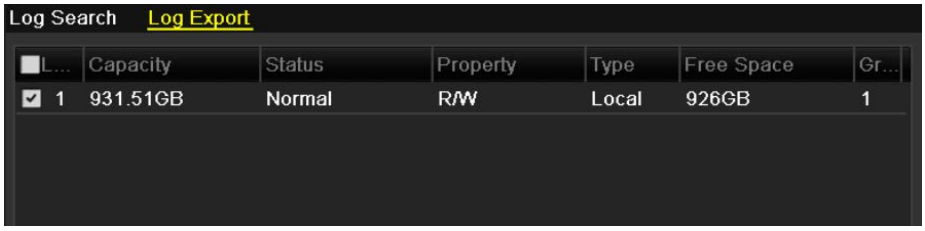


Figure 12.10 Log Export Interface

(2) Check checkbox to select the HDD and click **Export** to enter the export interface.

Figure 12.11 Export Log Files

7. Select the backup device from the dropdown list of **Device Name**.
8. Click the **Export** to export the log files to the selected backup device.

   You can click the **New Folder** button to create new folder in the backup device, or click the **Format** button to format the backup device before log export.

   Notes:

   1) Please connect the backup device to device before operating log export.
   2) The log files exported to the backup device are named by exporting time, e.g., *20110514124841logBack.txt*.

12.3 Importing/Exporting Configuration Files

Purpose:

The configuration files of the device can be exported to local device for backup; and the configuration files of one device can be imported to multiple device devices if they are to be configured with the same parameters.

Steps:

1. Enter the Import/Export Configuration File interface.

   Menu > Maintenance > Import/Export

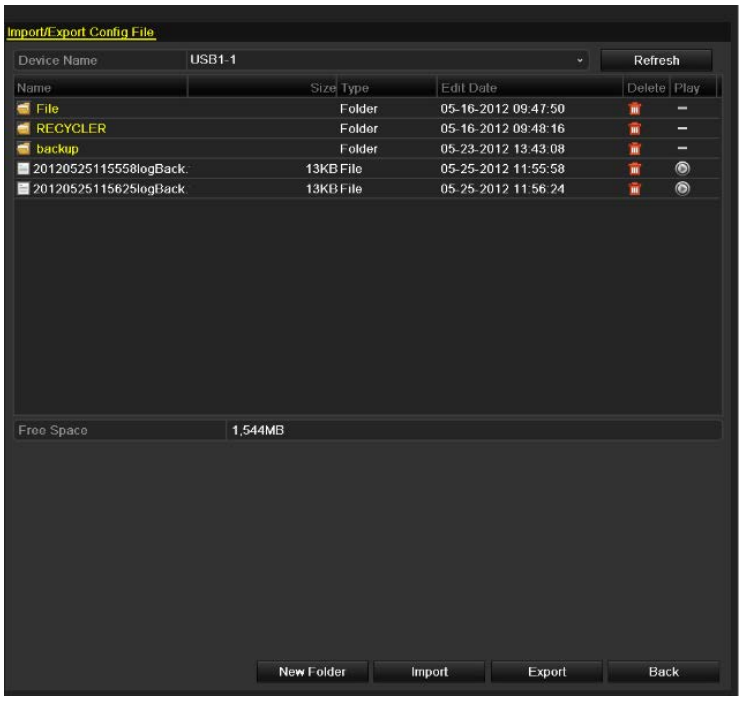


Figure 12.12 Import/Export Config File

2. Click the **Export** button to export configuration files to the selected local backup device.
3. To import a configuration file, select the file from the selected backup device and click the **Import** button. After the import process is completed, you must reboot the device.

   Note: After having finished the import of configuration files, the device will reboot automatically.

12.4 Upgrading System

Purpose:

The firmware on your device can be upgraded by local backup device or remote FTP server.

12.4.1 Upgrading by Local Backup Device

Steps:

1. Connect your device with a local backup device where the update firmware file is located.
2. Enter the Upgrade interface.
   Menu > Maintenance > Upgrade
3. Click the **Local Upgrade** tab to enter the local upgrade menu.

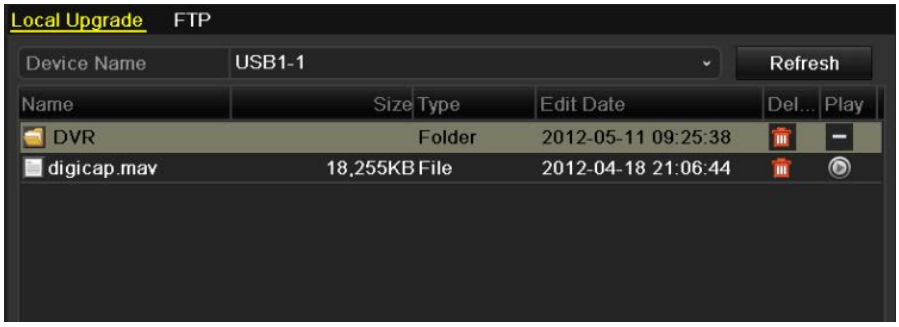


Figure 12.13 Local Upgrade Interface

4. Select the update file from the backup device.
5. Click the **Upgrade** button to start upgrading.
6. After the upgrading is complete, reboot the device to activate the new firmware.

12.4.2 Upgrading by FTP

Before you start:

Ensure the network connection of the PC (running FTP server) and the device is valid and correct. Run the FTP server on the PC and copy the firmware into the corresponding directory of your PC.

Note: Refer to the user manual of the FTP server to set the FTP server on your PC and put the firmware file into the directory as required.

Steps:

1. Enter the Upgrade interface.
   Menu > Maintenance > Upgrade
2. Click the **FTP** tab to enter the local upgrade interface.

Figure 12.14 FTP Upgrade Interface

3. Enter the FTP Server Address in the text field.
4. Click the **Upgrade** button to start upgrading.
5. After the upgrading is complete, reboot the device to activate the new firmware.

12.5 Restoring Default Settings

Steps:

1. Enter the Default interface.

   Menu > Maintenance > Default

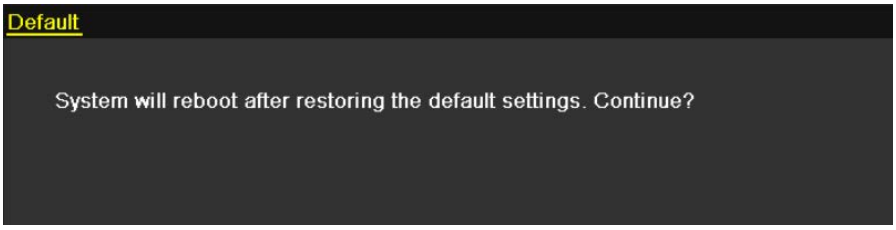


Figure 12.15 Restore Factory Default

2. Click the **OK** button to restore the default settings.

Note: Except the network parameters (including IP address, subnet mask, gateway, MTU and server port), all other parameters of the device will be restored to factory default settings.

C H A P T E R 1 3

Others

13.1 Configuring General Settings

Purpose:

You can configure the BNC output standard, VGA/HDMI output resolution, mouse pointer speed, etc.

Steps:

1. Enter the General Settings interface.

   Menu > Configuration > General

2. Select the **General** tab.

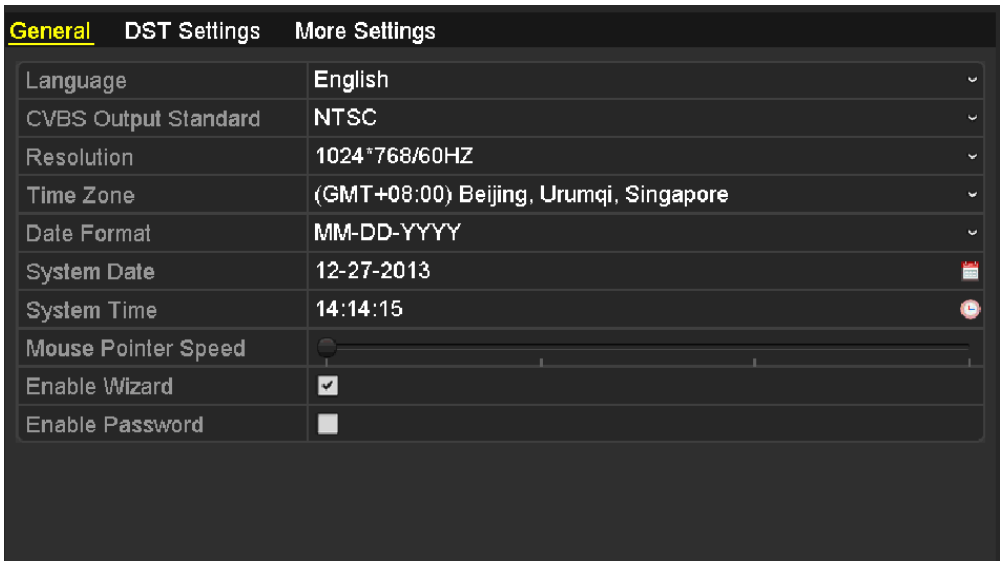


Figure 13.1 General Settings Interface

3. Configure the following settings:
   - **Language:** The default language used is *English*.
   - **CVBS Output Standard:** Select the CVBS output standard to NTSC or PAL, which must be the same with the video input standard.
   - **Resolution:** Select the VGA/HDMI output resolution, which must be the same with the resolution of the monitor screen.
   - **Time Zone:** Select the time zone.
   - **Date Format:** Set the date format.
   - **System Date:** Select the system date.
   - **System Time:** Set the system time.
   - **Mouse Pointer Speed:** Set the speed of mouse pointer; 4 levels are configurable.
   - **Enable Wizard:** Enable/disable the Wizard when the device starts up.
   - **Enable Password:** Enable/disable the use of the login password.
4. Click the **Apply** button to save the settings.

13.2 Configuring RS-232 Serial Port

Note: The RS-232 serial port is provided by DS-7300-SH and DS-8100-SH models only.

Purpose:

The RS-232 port can be used in two ways:

• Parameters Configuration: Connect a PC to the device through the PC serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the device's when connecting with the PC serial port.

• Transparent Channel: Connect a serial device directly to the device. The serial device will be controlled remotely by the PC through the network.

Steps:

1. Enter the RS-232 Settings interface.
   Menu > Configuration > RS-232

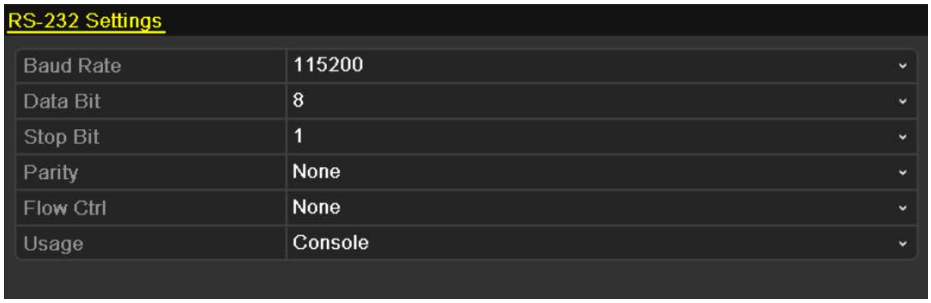


Figure 13.2 RS-232 Settings Interface

2. Configure RS-232 parameters, including baud rate, data bit, stop bit, parity, flow control and usage.
3. Click **Apply** to save the settings.

13.3 Configuring DST Settings

Steps:

1. Enter the General Settings interface.
   Menu >Configuration>General
2. Choose **DST Settings** tab.

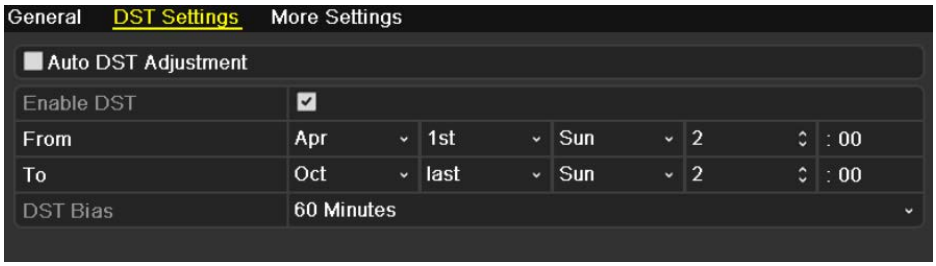


Figure 13.3 DST Settings Interface

You can check the checkbox before the **Auto DST Adjustment** item.

Or you can manually check the Enable DST checkbox, and then set the date of the DST period.

13.4 Configuring More Settings

Steps:

1. Enter the General Settings interface.
   Menu > Configuration > General
2. Click the **More Settings** tab to enter the More Settings interface.

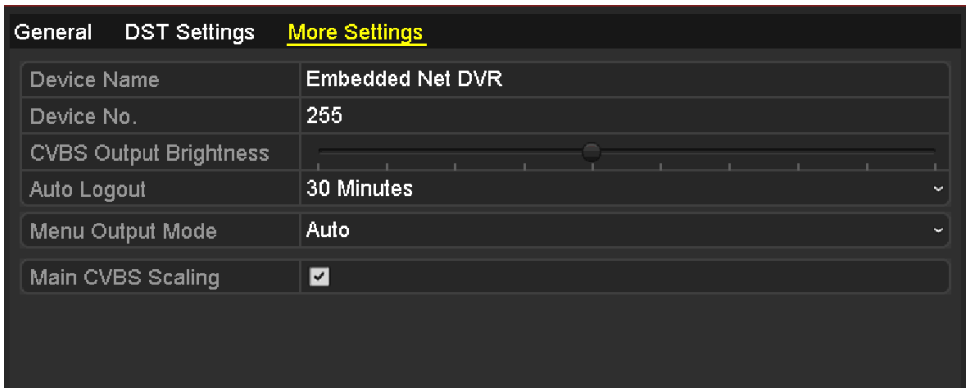


Figure 13.4 More Settings Interface

3. Configure the following settings:
   - **Device Name:** Edit the name of device.
   - **Device No.:** Edit the serial number of device. The Device No. can be set in the range of 1~255, and the default No. is 255.
   - **CVBS Output Brightness:** Adjust the video output brightness.
   - **Operation Timeout:** Set timeout time for menu inactivity. E.g., when the timeout time is set to *5 Minutes*, the system will exit from the current operation menu to live view screen after 5 minutes of menu inactivity.
   - **Menu Output Mode:** Select the menu output mode to Auto, HDMI/VGA or Main CVBS.
     Notes:
     - When you select **Auto**, the device can automatically detect the HDMI/VGA output as the main output and the CVBS output as the auxiliary output when it starts up.
     - After you have changed the output mode, you should restart the device to activate the new settings.
   - **Main CVBS Scaling:** Enable/disable video output scaling for main CVBS video output.
4. Click the **Apply** button to save the settings.

13.5 Managing User Accounts

Purpose:

There is a default account in the device: *Administrator*. The *Administrator* user name is *admin* and the password is *12345*. The *Administrator* has the permission to add and delete user and configure user parameters.

13.5.1 Adding a User

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

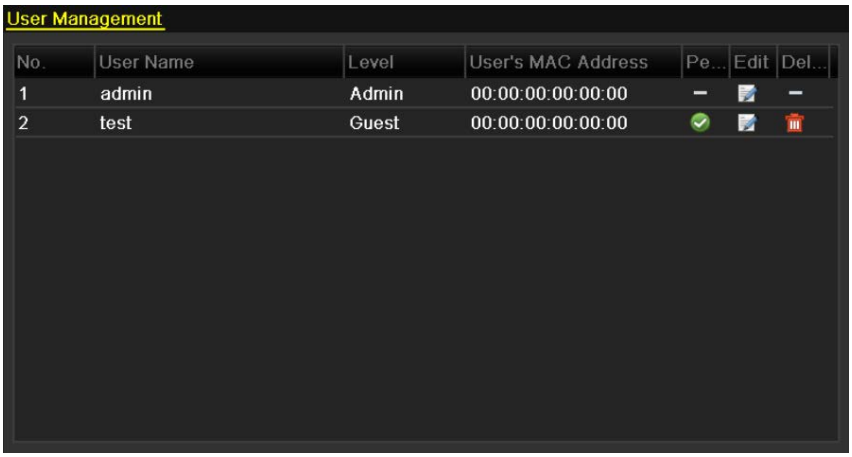


Figure 13.5 User Management Interface

2. Click the **Add** button to enter the Add User interface.

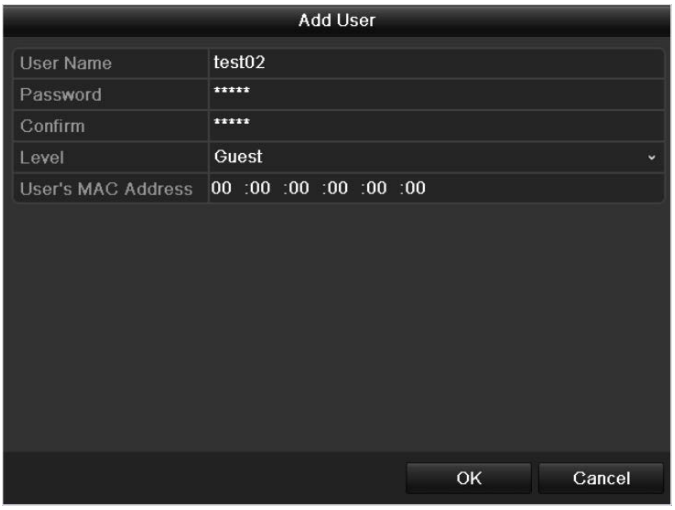


Figure 13.6 Add User Menu

3. Enter the information for new user, including **User Name**, **Password**, **Level** and **User's MAC Address**.

   Level: Set the user level to Operator or Guest. Different user levels have different operating permission.

- **Operator:** The *Operator* user level has permission of Local Log Search in Local Configuration, Remote Log Search and Two-way Audio in Remote Configuration and all operating permission in Camera Configuration.
- **Guest:** The Guest user has permission of Local Log Search in Local Configuration, Remote Log Search in Remote Configuration and only has the local/remote playback in the Camera Configuration.

User's MAC Address: The MAC address of the remote PC which logs onto the device. If it is configured and enabled, it only allows the remote user with this MAC address to access the device.

4. Click the **OK** button to save the settings and go back to the User Management interface. The added new user will be displayed on the list, as shown in Figure 13.6.

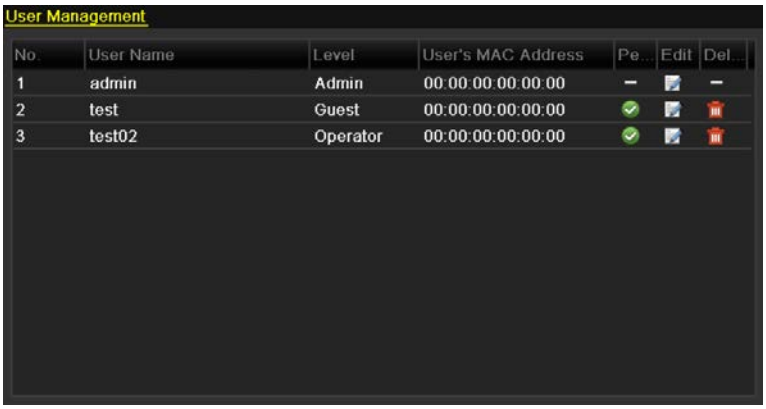


Figure 13.7 Added User Listed in User Management Interface

5. Select the user from the list and then click the button to enter the Permission settings interface.

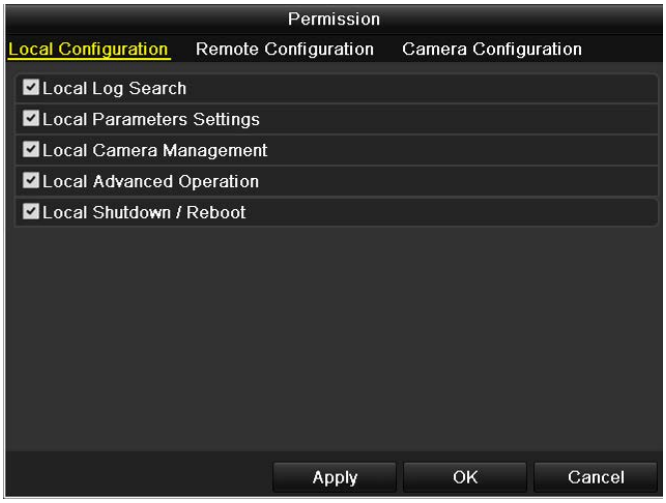


Figure 13.8 User Permission Settings Interface

Note: Local Camera Management is supported by HDVR series.

6. Set the operating permission of Local Configuration, Remote Configuration and Camera Configuration for the user.

Local Configuration

- Local Log Search: Searching and viewing logs and system information of device.
- Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Local Camera Management: Enabling and disabling analog camera (s). Adding, deleting and editing of network camera (s). This function is supported by HDVR series.

- Local Advanced Operation: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- Local Shutdown /Reboot: Shutting down or rebooting the device.

Remote Configuration

- Remote Log Search: Remotely viewing logs that are saved on the device.
- Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Remote Camera Management: Remotely enabling and disabling analog camera (s), and adding, deleting and editing of network camera (s). This function is supported by HDVR series.
- Remote Serial Port Control: Configuring settings for RS-485 ports.
- Remote Video Output Control: Sending remote control panel signal.
- Two-Way Audio: Realizing two-way radio between the remote client and the device.
- Remote Alarm Control: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- Remote Advanced Operation: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- Remote Shutdown/Reboot: Remotely shutting down or rebooting the device.

Camera Configuration

- Remote Live View: Remotely viewing live video of the selected camera (s).
- Local Manual Operation: Locally starting/stopping manual recording, picture capturing and alarm output of the selected camera (s).
- Remote Manual Operation: Remotely starting/stopping manual recording, picture capturing and alarm output of the selected camera (s).
- Local Playback: Locally playing back recorded files of the selected camera (s).
- Remote Playback: Remotely playing back recorded files of the selected camera (s).
- Local PTZ Control: Locally controlling PTZ movement of the selected camera (s).
- Remote PTZ Control: Remotely controlling PTZ movement of the selected camera (s).
- Local Video Export: Locally exporting recorded files of the selected camera (s).

Note: You should select the camera (s) on the Camera Configuration interface for the operation permission configured.

7. Click the **OK** button to save the settings and exit interface.

Note: Only the *admin* user account has the permission of restoring factory default parameters.

13.5.2 Deleting a User

Steps:

1. Enter the User Management interface.
   Menu > Configuration > User
2. Select the user to be deleted from the list.

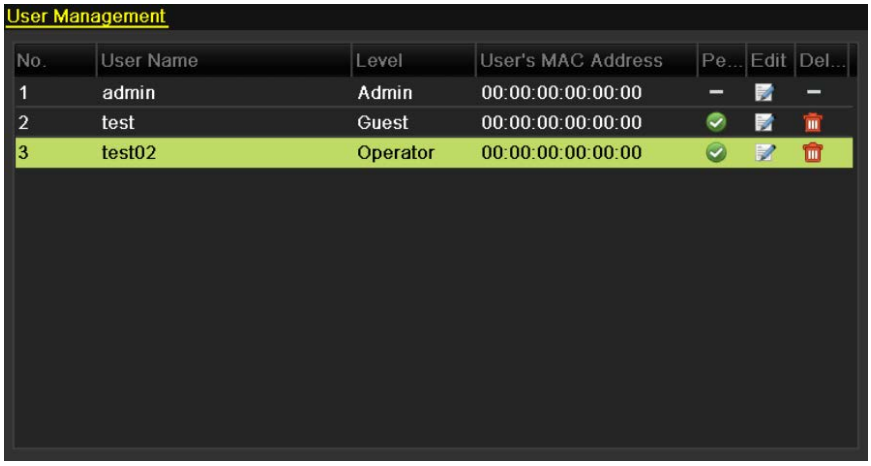


Figure 13.9 Delete a User

3. Click the icon to delete the selected user.

13.5.3 Editing a User

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

2. Select the user to be edited from the list.

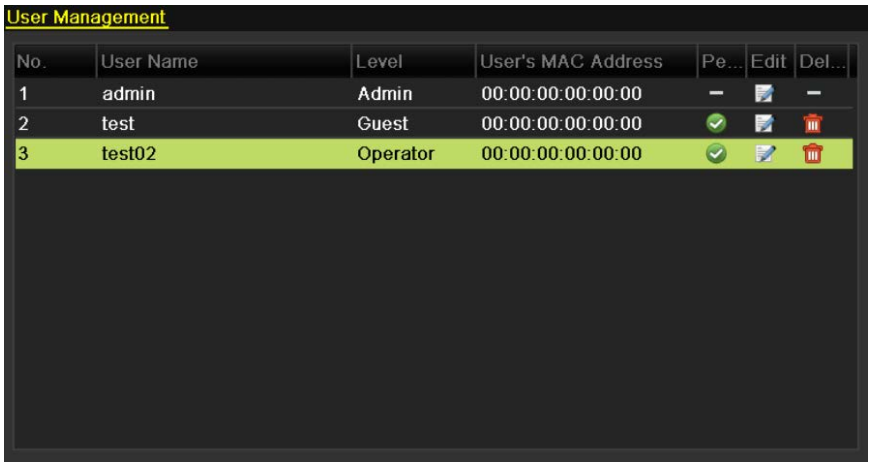


Figure 13.10 Edit a User

3. Click the icon to enter the Edit User interface.

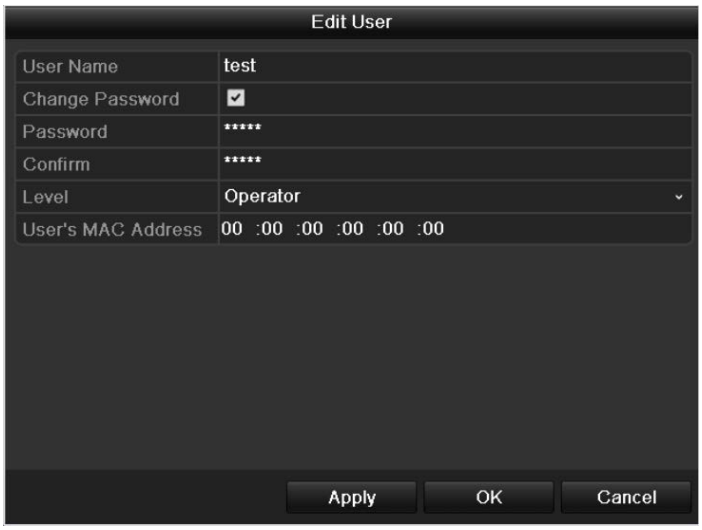


Figure 13.11 Edit User Interface

4. Edit the user information, including user name, password, level and MAC address.
5. Click the **OK** button to save the settings and exit the menu.

13.5.4 Changing Password of Admin

Purpose:

The password of the *admin* user account can be changed in the User Management menu.

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

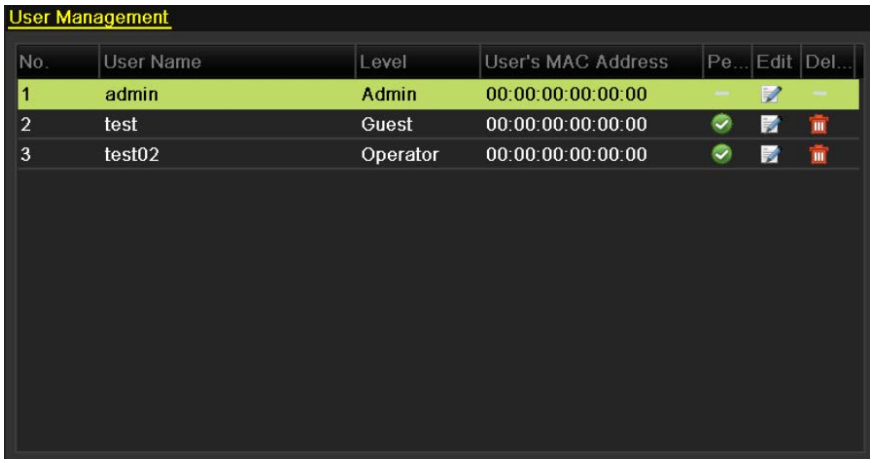


Figure 13.12 Change Password

2. Select the *admin* user and click to change the password.

Figure 13.13 Change Password

3. Enter the old password, check checkbox, enter new password and confirm password on the menu.
4. Click **OK** to save the settings and exit the menu.

CHAPTER 14

Appendix

List of Compatible Hikvision IP Cameras

Type	Model	Version	Max. Resolution	Sub-stream	Audio
SD Network Camera	DS-2CD802NF	V2.0 build 090522	704×576	√	√
	DS-2CD892NF	V4.0 build 090508	704×576	√	√
	DS-2CD7133F-E	V5.0.8 build130930	352×288	√	×
	DS-2CD8133F-E		352×288	√	√
	893PF-E 893PFWD-E		704×576	√	√
HD Network Camera	DS-2CD7153-E		1280×720	√	×
	DS-2CD8153-E		1280×720	√	√
	DS-2CD8254F-EIS		1920×1080	√	√
	DS-2CD864FWD-E DS-2CD8264FWD-EIS		1280×720	√	√
	DS-2CD2012-I DS-2CD2112-I DS-2CD2212-I DS-2CD2312-I DS-2CD2612F-I DS-2CD2712F-I	V5.0.5build131017	1280×720	√	×
Network Speed Dome	DS-2DF7274 DS-2DF5274	V5.1.0 build 130923	1280×960	√	√
	DS-2DE7174 DS-2DE5274	V5.0.2Build130926	1280×960	√	√

Note: For the list, our company holds right to interpret.

Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the device, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
- **DVR:** Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **PPPoE:** PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.
- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

FAQ

- **Why does my device make a beeping sound after booting?**

The possible reasons for the warning beep on the device are as follows:

a) There is no HDD installed in the device.

b) The HDD is not initialized.

c) HDD error

To cancel the beeping sound and use the device without HDD, enter the Exception Settings interface. For detailed information, see Chapter Handling Exception.

- **Why does the device seem unresponsive when operating with the IR remote control?**

Please read through the section ***Using the IR Remote Control***, and check:

a) The batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.

b) The batteries are fresh and are not out of power.

c) The remote has not been tampered with.

d) There are no fluorescent lamps in use nearby.

- **Why does the PTZ seem unresponsive?**

If the PTZ seem unresponsive, please check:

a) The RS-485 cable is properly connected.

b) The dome decoder type is correct.

c) The dome decoder speed configuration is correct.

d) The dome decoder address bit configuration is correct.

e) That the main board RS-485 interface is not broken.

- **Why is there no video recorded after setting the motion detection?**

If there are no recorded video after setting the motion detection, please check:

a) The recording schedule is setup correctly by following the steps listed in ***Configuring Record***.

b) The motion detection area is configured correctly (See ***Configuring Motion Detection***).

c) The channels are being triggered for motion detection (See ***Configuring Motion Detection***).

- **Why doesn't the device detect my USB export device for exporting recorded files?**

There's a chance that the device and your USB device is not compatible. Please refer to our company's website to view a list of compatible devices.

- **My device is in Live View mode and the menu does not show up. It does not respond to the mouse or the IR remote control.**

Your device may be in auxiliary mode. This occurs when the **Main/Spot** on front panel or **VOIP** button on IR remote control is pressed. To return to the previous mode of operation, press the **Main/Spot** or **VOIP** button again and then press **Enter** button on the IR remote control.

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